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PAPERS

READ AT

The Royal Institute of British Architects,

SESSION 1869-70.

USUI CIVIUM, DECORI URBIUM.

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Royal Institute of British Architects.

SESSION 1869-70.

At the Opening General Meeting, held on Monday the 1st of November, 1869,

SIR WILLIAM TITE, M.P., President, in the Chair.

THE preliminary and formal business of the evening having been concluded, the **PRESIDENT** rose and said:—

GENTLEMEN,—It now becomes my duty to address to you (which I have the honour of doing in the third year of my presidency) a few opening remarks on the occasion of our meeting together for the beginning of our Session; and first permit me to congratulate the Royal Institute of British Architects, and all who hear me, on the prosperity of the Institute itself. My friend Professor Donaldson and myself are old enough to recollect its beginning; I am happy to tell you at the present moment of its success. The number of persons connected with it—architects and artists in various departments, whether as Fellows, Associates, Students, Honorary Fellows, Honorary and Foreign Correspondents, and so on, amount to no less than 630. We are happy to say the funds and finances of the Institute, notwithstanding the expenses which were incurred in occupying these new premises, are also flourishing. Last year all the expenses were paid, and a considerable sum of money was carried to a reserve fund. These are incidents gratifying to us as men of business as well as artists, and you will therefore feel that I am justified in congratulating you, which I do with much sincerity, on the present position of our Institute.

It is my purpose this evening, though not at any great length, to advert to three particular classes of incidents in connection with this Institute:

Firstly. Its position during the past year, and what it has done during that year.
Secondly. Some slight notice of recent architectural works in London.
Thirdly. Some general considerations in reference to our present position, and the possibility of increased usefulness.

With regard to the first class,—I refer with a great deal of pleasure to the papers that were read here. They were considerable in number, but I will simply refer to those which excited the most interest. The first in order was one by Sir M. Digby Wyatt, "On the Foreign Artists employed in England in the Sixteenth Century, and their influence on British Art." That paper led to a very considerable and useful discussion. We then had the satisfaction of receiving a very interesting and valuable communication from the gentleman who has been lately appointed to the important duties of Ambassador in Spain, the Right Hon. Henry Austen Layard, who found time, notwithstanding the great duties he had to conduct in Parliament and out of it, to attend here one night and give us a very instructive paper "On Mosaic Decoration." I do not know any one who understands that subject so well as Mr. Layard; and I feel that we were all obliged to him for the great pains which he took to prepare that paper, and for the interest and success that followed it. Another paper, by Professor Lewis, "On the Celtic, Roman, Moorish, and other Remains in Algeria," was full of information and evidence of research, embracing, as it did, much of the history of art in that remarkable kingdom. Then there was another paper by my excellent and reverend friend now sitting opposite to me (the Rev. R. Burgess), "On Stamboul and the Bosphorus." No man is better acquainted with the subject, or has given more attention to all that relates to the history and antiquities of that locality; and we are indebted to no man more greatly than to Mr. Burgess for having at all times communicated the valuable information he possesses on these matters. The last paper I shall refer to is that by my esteemed friend, Professor Donaldson, "On the Tomb of an Ancient Roman Architect in the Villa Volkonski, in Rome, and on some incidents of his Journey in Palestine." All I can say is that our friend made a most remarkable journey during the autumn of last year, and during a considerable portion of the spring of the present year, and I hope he will take an opportunity to furnish us with some further particulars of that journey, and the benefit of his observations in all that relates to architecture, in those remote but interesting parts of the world.

The necrology of the Institute is a subject which perhaps might be left to the Council to record, but there are two personal friends of mine whose lamented deaths I cannot pass over without notice, viz: Mr. Ashpitel and Mr. George Smith, both of whom died in the same month. We have had to regret the loss in the one instance of a most learned and useful man, who gave, and readily gave, a large amount of his time to the Institute. With regard to Mr. George Smith, he was one of the oldest architects of our day. He designed St. Paul's School, and many other buildings in London, and was the architect of the Mercers' Company. I had a great personal regard for him. He died at the age of eighty-seven, and few men have passed from among us more honoured and respected than George Smith.

On March 1st we submitted to the Queen the name of Professor Lepsius as the recipient of the Royal Gold Medal of the Institute for the year. Her Majesty was graciously pleased to approve of our nomination, and I had the honour of presenting the medal to his representative in London. The name of Professor Lepsius is one much honoured by the archæologists and architects of Europe. You all know, through his published works, what he has done in Egypt and Berlin, and I must say I think we did ourselves great credit in nominating Professor Lepsius to receive the honour to which Her Majesty so graciously acceded.

I may here mention that a considerable accession has been made during the past year to the number of our distinguished foreign Associates. It is a singular and unfortunate fact that the name of one of them, the Commendatore Luigi Poletti, of Rome, who restored the fine basilica of S. Paolo fuori le murà, is recorded in our obituary of this evening. The names of the other foreign Honorary Fellows elected last year are Emilio de Fabris, of Florence, Il Cavaliere Prof. Guiseppe Poggi, also of Florence, and Il Conte Francesco Augusto Vespignani, of Rome.

These, I think, are some of the principal incidents, and all that I need trouble you with of the history of the past year in relation to this Institute. We have assisted in some useful matters, and one of them is the fact that a supplementary catalogue of the library has been, with a great deal of care and pains, prepared, and is now ready for the use of every one; and another fact is, that there has been prepared by the Librarian of the Institute, a list of *libri desiderati*, including such works as are much wanted in our library, and which, I hope, will be at some time, and by some means, supplied.

Our friend, Professor Donaldson, has adverted to the dinner which is proposed to be given in Paris, by the architects of that city, to our Honorary and Corresponding Member, M. Viollet le Duc. He now supplies me with another extraordinary fact. It appears that the Imperial Government of France gives every five years, a prize to the best architect or man of science; that prize has this year been awarded to M. Duc, and amounts to 100,000 francs, or £4000. sterling, and I am happy to be able to add, that the gentleman who has received this magnificent award, has appropriated 25,000 francs to found a scholarship for architecture in France; and you will find presently that we had, ourselves, previously attempted to do something of the same kind. It is a remarkable instance of the Imperial liberality, and of the success of our Honorary and Corresponding Member, M. Duc.

I come now to the second subject of my remarks, which is a more difficult one. It is, of course, perfectly impossible for an architect to give an opinion, unless it be a kind and friendly one, of the works of his professional contemporaries; but I may say that, during the past year, we have seen so many remarkable works carried out, that you will expect me—as in my early days it was Sir John Soane's practice—to say a word on what is going on around us, and I am sure my remarks will be received in the spirit in which they are dictated—namely, of good nature, and, I hope, of kindness. I think there are four or five buildings, by members of the Institute, which deserve especial notice. One of these, by our Fellow, Mr. James Pennethorne, is the London University, Burlington Gardens. I have not a word to say, except as to the admirable design of that building. I think it is in every way worthy of the time, the man who built it, and the purposes to which it is devoted. The façade is, perhaps, a little novel in its character. It may be somewhat playful—and this may be said to be an age of playfulness—as well as beautiful; but I am quite sure you will all agree with me in thinking it an eminently successful building. Mr. Pennethorne, late in life, in this, his last work, has, I think, surpassed his previous efforts in the field of architectural design.

I now come to the new rooms of the Royal Academy. Are not they, again, most creditable to their author? They are by our friend, Mr. Sydney Smirke, also a Fellow of this Institute, who may be fairly congratulated on his work. The rooms are elegant, convenient, extremely well ventilated, and they are all that the public can require in a building designed for such a purpose. No doubt eventually there will be a better access to those rooms, when the front buildings, entrusted to Messrs. Banks and Barry, both Fellows of the Institute, are in course of time, completed. With respect to the recent Exhibition at the Royal Academy, we have, as architects, been a little annoyed at being so inadequately represented on its walls. Perhaps the fault is our own, but I have felt that architecture has hardly had justice done to it. The room originally appropriated to this department of art was well enough in itself. Perhaps the drawings sent were not of sufficient interest or merit; and that has been suggested by some people as a reason why the Architectural Exhibition at the Royal Academy was not successful last year; but I am bound to say, that neither in the opportunity of display afforded to us, nor in the exhibition itself, were we successful, and I hope some amongst us, especially the younger members of the profession, will be found to do something to redeem our credit on the next occasion.

I now come to another building, which, I also think, bids fair to be all that could be wished, and that building is the great hospital now in course of erection, from designs by my friend, Mr. Currey, opposite the Houses of Parliament. It would be folly for me, as a governor of that Institution, to say we gave the architect power to spend all the money he pleased upon decoration. We wanted a hospital, and a useful one We stipulated for economy; and I think, when finished, it will be a building, in every sense of the word, worthy of its uses, and, let me add, no inelegant decoration of the metropolis itself. It is based upon the plan of the Lariboisière Hospital in Paris, and, I think, it will be found just as creditable to our friend Mr. Currey, and to the governors who have directed its construction, as it will be useful to the suffering patients who may find shelter beneath its roof.

I now come to the two most important works of the day—Blackfriars' Bridge and the Holborn Viaduct. The latter work has been constructed by Mr. Haywood, who is, in the truest sense, an architect, although he calls himself "architect and engineer." It is in the former capacity that I know him well; and, I think, all we have said and felt about the viaduct bears testimony to his ability. Perhaps I may venture to remark, in all good nature, that the decoration, in my opinion, is a little overdone. The Romans and Greeks built for antiquity—one might almost say, for eternity. I am not sure that that can be said of the architecture of the present day. We have grown to be fond of ornament, gilding and excess of detail, which we do not see in the remains of Greece and Rome, With regard to the bridge, it is a marvellous work, and most successful in regard to its practical utility. I have on other occasions given my opinion upon the merits of its design. I recollect the bridge which Mr. Mylne built, and I confess that I admired that more than the one we see now. The present bridge is, to my mind, like the viaduct, a little overdone in decoration; but, in both cases, I am bound as a man of considerable experience, to express my admiration at the workmanlike manner in which the materials have been handled. The hardest granites that were procurable, are worked with a dexterity and ability which commands our praise. In the viaduct especially, the granite is almost wrought like joiner's work; and in the case of the bridge, though I do not admire the cornices, the workmanship is beyond all praise, and, together with the polishing of the granite columns, is in every way creditable to the English and Scotch artizans by whom it has been executed.

These are the only criticisms on modern works in which I shall venture to indulge; and I now pass to the third class of the remarks which it occurs to me to make.

We are called upon, as members of this Institute, and in connection with our position in the state, to perform some important duties, and I venture to think those duties are invariably performed with care and assiduity. One of those duties is, the examination of candidates for District Surveyorships. That is now becoming a matter of exceeding importance, which, I will venture to say, is felt and duly appreciated here. We have the duty of returning the names of passed candidates to the Board of Works, with whom the appointment of District Surveyors rests. The Board of Works could, if they pleased, place these examinations in other hands, but they have hitherto been so satisfied with the pains we have taken, that that part of our duty, I hope and believe, has been well performed.

During the past year a proposition was made by that Board to bring a bill into Parliament to repeal the present Building Act. The subject was referred to a Committee of this Institute, and many days were occupied in the consideration of the subject, but on the whole we thought it better to leave well alone. Some changes, no doubt, are required in that Act, but for general purposes we think it will work well, and that it is not desirable to make any great changes in its legal provisions.

We have had, during the year, an application from the London Builders' Society, who have brought under our notice the very grave question of the relations between builders and architects, and have urged upon us a great many changes. Now, it is a singular fact, which my experience supplies me with, that engineers never allow any interference with contractors or builders; they keep the whole of the affairs in their own hands; they also settle questions of payments themselves. For myself I will say it has always been my own practice to allow no interference with my professional duties as an architect. If the work is ill done I interfere, or if the materials are bad I send them away. You will, I am sure, receive this as the experience of a somewhat long life. I have never interfered in any of my buildings with questions of payments. It appears to me where a man has done his work, if any questions arise out of the contract, or anything that has been done for me, he has a perfect right to represent himself or to be represented. It is only fair to hear what he has to say, and it is proper also to refer to some disinterested party. I am glad to find this Institute, after going into the question, has come to the same conclusion that I have myself, viz., that the architect should dictate solely in the building and architecture, the engagement between himself and the builders as to the amount to be paid for the work, remaining an open question.

The next topic I shall touch upon is a very grave and important one. Our desire, as members of this Institute, must naturally and always ought to be, to encourage architectural education, to make our members wiser, and afford facilities in that direction, so far as we can, to the members of our profession. I think that is not to be done by urging one another who have advanced in life, because our duty is for the most part done and our task is ended; but we want to encourage and teach the young rising architects. It has been a matter of great anxiety on the part of the Council to promote that object, and when I remind you of the resolutions passed respecting the Voluntary Architectural Examination last session, you will recognise their effort to encourage the youthful architect, to cultivate his genius and talents. The whole direction of architectural education I feel persuaded must be in that way. In that way the Council have considered it, and in that way these regulations have been suggested, which I hope will be firmly and finally carried out, and if they do so I hope architecture will maintain its place in society, and increase its influence in proportion as it increases its talents and usefulness.

Mr. **John P. Seddon** (Hon. Sec.) then read the following resolutions, passed at the closing General Meeting of last Session (21st of June, 1869), and based on the suggestions of a general Committee on Architectural Education :—

1.—" That a text-book or pamphlet should be prepared, pointing out where and when (in addition to office instruction) courses of lectures, specially pertaining to the profession, can be attended, and giving a limited number of books in which the best information is to be had."

2.—" That a certificate be granted to all who pass the Voluntary Architectural Examination established by the Institute."

3.—" That a preliminary examination be held at the Institute in elementary subjects, open to all students who have been at least one year in an architect's office, provided that it be not compulsory on those who come up for the Voluntary Architectural Examination."

4—" That the Institute should assist the Architectural Association to carry out the necessary arrangements for a Drawing School, which it was proposed by that Society to establish this Session."

Mr. Seddon added that the preparation of the proposed text-book had been undertaken by Professor T. H. Lewis and Mr. A. Waterhouse, Fellows.

The **President** continued.—I think it was extremely kind in men so much occupied as my friends Professor Lewis and Mr. Waterhouse to undertake such an important duty, and I want to thank them publicly for doing so, and to say, we believe their exertions and labours will be crowned with success. Both of them are architects, placed in important positions in society, and I believe the information they will bring to bear upon the subject will be of the greatest possible importance to the young men who will have the benefit of their suggestions.

I have only one more topic to notice, and that is that during the past month I think there have been two letters addressed to me personally in the *Building News*. They are very well and thoughtfully written, and they appeal to me on two distinct subjects; I think my opinion on those subjects is pretty well condensed in what I have said just now in regard to our being able to assist the young,—not those who are advanced in life like myself; they must take their chance, and their position as formed for them. The writer seems to think that when a man aims to become a Fellow of this Institute he should be subjected to an examination. I know of no such course having ever been taken in any other professional society, nor can I conceive it would be submitted to in this. A man before he obtains the rank of Fellow obtains a position which his skill, age, and experience warrant, and I do not suppose he would submit to any examination any more than in the case of the Royal Society, or any others. It appears to me the title of " Fellow " of this Institute is valued, because I see it used in all directions, appended to men's names, and I do not believe that anything more can be done in that direction. The other point in the letters to which I have alluded is this,—that Fellows of the Institute should be permitted to measure for builders. There may be something in that worth consideration, but at the same time I think we as architects ought to hold ourselves, as much as we can, distinct from interests of that character. A man of honor, and a gentleman, can be a man of honor and a gentleman anywhere. A distinct regulation was established at the foundation of the Institute,—*That Fellows should not measure for builders.* It is found there still, and I do not myself feel inclined to disturb it. It is a very distinct practical question, which every man of business can understand and appreciate, but it is not a subject which we can discuss at a large meeting like this.

I think I have now performed my duty in the address I have made to you. I have endeavoured to make the whole intelligible and practical. I am drawing toward the close of life, and I should like the experience I have obtained to benefit as far as possible those who follow me. I think the Institute has become practical and useful in its operations, and in making my bow to you to-night I shall be happy in the thought that I have been the means of contributing in any way to its success.

The President concluded by inviting the remarks of the meeting.

Professor DONALDSON, Hon. Sec. For. Corr.—The President has invited the remarks of those who feel disposed to offer any observations upon the various topics of the speech he has just addressed to us. One more practical or more useful we cannot conceive; he has not enlarged upon subjects not within the reach of all our comprehensions; he has not led us into wide fields of fancy, but has confined himself to the practical parts of our art and science; he has called attention to various topics. I think he has hardly put emphasis enough upon the success of M. Duc, our Hon. and Corr. Member. It was not a prize offered to architects alone, but it was open alike to architects, sculptors and painters, who distinguished themselves during the preceding five years, to whom this great periodical reward of 100,000 francs was offered; therefore it is a matter of pride to us, as professional men, that an architect should have been selected, and that his works should have been approved, so as to have been cited as having merited this high distinction in the empire of Napoleon III. Our friend the President has alluded to several works recently erected in the metropolis; and he has been critical as well as generous in his remarks upon them. He has necessarily been obliged to make selections of a few only, because time would not have allowed him to allude to all the works lately carried out; and he has invited further remarks on that subject. There is one executed last year, now open to public view, which I saw the other day in passing down the Thames,—the work of one of our Fellows, and a great embellishment to the City. I allude to the new building of the Bible Society, erected by our friend Mr. I'Anson. It is a noble production, rising up in the centre of the City, and does honour to the architect, to the Society, and to the art of the present period. I beg to offer my congratulations to him on the success of that fine building. Allusion has been made by the President to the Building Act. I am glad to hear from so good an authority that but little is to be done in touching the existing Act. I believe from my own experience of a quarter of a century, and looking to the manner in which the provisions of the act are carried into operation by my colleagues, that it would be difficult, not to say dangerous, to touch its more material enactments; I am therefore glad to hear that it is not likely to be interfered with. It has been said that the title of Fellow of this Institute is an honourable one; I believe it is regarded as such. It was instituted in the first instance, and intended as the title of a man, who honourably pursued his profession, and a guarantee to the public that a member of this Institute is worthy of the confidence of his employers,—if not, he would no longer be a Fellow. It is not for us to make out the relative merits of this or that professional brother; or to say this one was most distinguished for his practical knowledge; that one could build a house with most taste,—that would be an invidious distinction. All we attest is the capability of a man to carry out a building as a man of science, and likewise with the integrity of an honorable man. Such is the simple title we give to our Fellows, and no other could we guarantee; and in fact no society whatever can go further than that.

When we see an architect occupying the high position of our friend the President, who owes his present rank and position to his own ability and his own great character,—who has risen to the height of his profession, and taken a parliamentary status in the senate of the empire, we must, I am sure, all feel proud that we have for our President Sir William Tite. I beg leave to propose a vote of thanks to the President for the address with which he has been pleased to favour us.

Mr. G. GILBERT SCOTT, R.A., Fellow. I so entirely agree with the remarks of Professor Donaldson upon the interesting address we have received, that I can second his motion with the utmost heartiness. I sincerely thank our excellent President for the address he has given us. It seems to me thoroughly useful and practical in every way. The only remark that I would make is, that I wish he would devise some means of placing his most extensive and useful experience in a more extended and voluminous form than we can expect in an address from the chair. Sir William Tite's opinions on numerous practical, as well as artistic questions, during his long professional practice, would be very valuable, and there could be no greater boon, amongst the many boons he has conferred upon the profession, than for him to place upon record the results of his most important and extensive experience.

The vote of thanks to the President for his address having been carried by acclamation,

THE PRESIDENT rose and said—I am very much obliged to the mover and seconder of this vote of thanks for the kindness with which they have spoken of me individually. The suggestions of my excellent friend, Mr. Gilbert Scott, really deserves a little consideration; but as long as I am in Parliament, and member for Bath, with 60,000 inhabitants, and appealed to as I constantly am—not in Parliament, but out of it—for advise and consultations of all kinds, I am afraid I cannot definitely promise it. Whether my life will be granted long enough for me to undertake such a duty, I do not know; but I have sometimes thought a good deal of the result of what my friend has adverted to might be conveniently placed in the shape, not of a large volume, but of a compendious manual, as the experiences of a practical man. I am much obliged to him and to my friend Professor Donaldson, whose friendship I have enjoyed for so many years;* I also thank you, gentlemen, who have so kindly received their proposition, and my address, this evening.

The Discussion on the Address having been brought to a close,

Mr. J. P. SEDDON, Hon. Sec., called the attention of the Meeting to some specimens of

GREEK ROSSO ANTICO MARBLE,

exhibited by Madame Melissa Demetrakarakos, and read the following description:

"This marble is brought from a quarry in the Bay of Skutari, on the coast of the Gulf of Laconia, near the Port of Gytheion in the Morea. N: Lat: 36–½. Long before it had acquired in Italy the name of *Rosso Antico*, it was known as "Red Laconian" to the ancients, whose excavations are proved by the large blocks cut by them and never removed, on account of the difficulty of transport across mountains and ravines; but the quarry whence these small specimens are extracted, is situated close to the sea, sloping down into the sheltered and tideless Bay of Skutari; with a village of the same name above. This quarry has not been opened for any excavations of importance, and there is as yet no machinery for lifting *large blocks* which could be cut out, or for shipping them.

The marble becomes richer in colour the deeper it goes into the bed of the quarry, and is found in larger quantities.

Lysandros Kaftangioglou, Honorary and Corresponding Member of this Institute, a Greek architect, who is known to Professor Donaldson, Hon. Sec., For. Corr., sent the following notice, with some specimens, to the Exhibition of 1851, by order of the Greek Government. (See Illustrated Catalogue).

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* I did not advert to the many elegant buildings of a private character in the metropolis, if I had I should have noticed with much satisfaction Mr. I'Anson's Bible Society, and also the new club recently erected in Pall Mall by our well known Mr. Brandon, which is, I think, one of the finest edifices of its class in the metropolis.

" *Rosso Antico used by the ancients for sculpture and architecture;* The largest pieces of this marble
" are the fourteen steps in the Church of St. Prassede in Rome, which were intended to be
" carried to France to ornament the throne of the Emperor Napoleon I. It was thought, until
" lately, that the place whence it came was unknown; it was however ascertained to be from near
" the sea at Skutari."

Within the last three months this same gentleman has in a letter expressed his hope that this red marble, so much sought by the Romans, who made great use of it, should be again employed for works of decorative architecture—soubassements, interiors of churches, and palaces, inlaid ornament, chimney pieces, standing candelabra in halls, &c.; and also says that the opening of the quarry would be the beginning of a great working—very easy, and not expensive, from its admirable position. Especially as there are facilities for water transport to London, or any other port, direct from the spot.

Rosso Antico is extremely hard and impervious to the effects of climate. Its proximity to iron produces its hardness and colour.

It has been used by Baron Triqueti in the Memorial Chapel at Windsor, and Lord Walsingham for decorative panels in his billiard room. Lord W. is perfectly satisfied with its identity and beauty; and having carefully compared it, sees no difference between it and some ancient pieces in his Lordship's possession, which, he thinks it is more than probable, came from the same locality."

Professor **Donaldson** remarked, that very little was known with regard to the marble Rosso Antico, although considerable quantities, were found in Rome in use for decorative purposes, among the objects of art on sale in that city. Milizia describes it, in his *Architettura*, as consisting of two qualities, more or less coralline in depth of colour, and occasionally with white or black spots: he mentions the figure of a wolf wrought in this marble in the Gallery of the Borghese Gardens. Rondelet also notices Rosso Antico, stating that the two columns in the Salle d'Apollon, in the Louvre, are of this material, and once formed part of the tomb of Charlemagne at Aix la Chapelle. Professor Donaldson added, that there were several small-sized statues of the same marble in the Galleries of the Vatican and Capitol at Rome, and that much of it had been used in the churches there, being considered, from its hardness, beautiful colour and rarity, as very valuable. If, therefore, the specimens exhibited were of the same or like quality, the material would be a valuable acquisition for decorative purposes.

A new system of Ventilation, invented and patented by Mr. **William Potts**, was then exhibited and explained by Mr. **Potts**, jun.; and after some discussion on the subject, the meeting adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, 15th November, 1869, CHARLES BARRY, Vice-President, in the Chair, the following Paper was read:—

A SKETCH OF THE EARLY HISTORY OF ROMAN ARCHITECTURE,

(AS ILLUSTRATED BY RECENTLY DISCOVERED MURAL REMAINS).

By J. H. PARKER, F.S.A., Hon. M.A., Oxon, Honorary Member.

TO fortify our dwellings against enemies or intruders is an instinct of human nature, and from the earliest period of the history of man we find traces of fortifications. The early inhabitants of the earth lived either in caves or huts formed of wicker-work, or wattle-work and wood, with thatched roofs. Such habitations continued to be the usual dwellings of the human race for many centuries, and similar structures are still in use in many parts of the world, and even in some parts of England and Wales, under the name of the huts of the shepherd or the charcoal burner, but with us such habitations are generally used for temporary purposes only.

In Italy the peasantry reside habitually in such dwellings, which, at a little distance, have the appearance of hay stacks or ricks of corn, and it is not until we are close to them that we see that they are provided with an aperture serving the double purpose of a door and window, that they are hollow, and that each is the habitation of a family. Such dwellings are evidently open to every sort of attack, and for this reason they were soon collected together in villages, which afterwards grew into towns. These villages or towns were surrounded by a bank of earth and a wide deep trench, out of which the earth for the bank had been taken. There are often two trenches, one on each side of the bank, and when the town was large the inner trench served as a road for the soldiers to man the walls. On the top of the bank a wall of wood, with wooden towers, was placed, or sometimes a palisade only. These early fortifications were generally placed on the tops of the hills for greater security. The edge of the hill was then cut into vertical cliffs, and the earth or stone that was cut off to make a perpendicular surface, naturally formed a bank or terrace at the foot of the cliff, and below that a second cliff was necessary, with a wall built up against it. This wall was originally of wood only, afterwards of stone. In process of time the summits of nearly all the hills became fortified in this manner, and a whole district of country was fortified by a chain of these fortified hills, and the narrow gorges between them, which were easily defended also. This became what is called a chain of fortresses to defend the borders of a country, and when war was expected, the first thing to do was to prepare these fortresses for defence, and supply them with provisions. We read of such fortresses frequently in the history of the Jews, the earliest authentic history that we possess. Thus when the Jews were expecting to be attacked by Holofernes, the general of Nebuchodonosor, king of Assyria, the first step was to prepare the fortresses, as we read in the fourth chapter of the book of Judith. "Now the children of Israel that dwelt in Judea heard all that "Holofernes, the chief captain of Nabuchodonosor, king of the Assyrians, had done to the nations. "........ Therefore they sent into all the coasts of Samaria and the villages .... And "possessed themselves beforehand of all the tops of the high mountains, and fortified the villages that "were in them, and laid up victuals for the provision of war .... and wrote to those that "dwelt in the villages that are toward the open country . . . . charging them to keep the "passages of the hill country; for by them there was an entrance into Judea, and it was easy to stop "them that would come up, because the passage was straight, for two men at the most . . . . "Then was it declared to Holofernes, the chief captain of the army of Assur, that the children of "Israel had prepared for war, and had shut up the passages of the hill country, and had fortified all "the tops of the high hills, and had laid impediments in the champaign countries: wherewith he was "very angry."

We must bear in mind that at the period of this war the children of Israel were chiefly herdsmen, whose wealth consisted of their flocks and herds, as it had done in the days of the patriarchs. These were driven before them wherever they went, and there was no great hardship in being sent from one pasture to another. Attached to each fortress was an enclosure for the flocks and herds, surrounded by a bank and a trench, which became afterwards either a hedge and ditch, or a wall and a foss, according to circumstances. These were the places of security to which their property could be driven for protection, and no fortress was complete without this accessory: such hill fortresses were called fastnesses, and we read of them continually in Cæsar's Commentaries of his wars in Gaul and Britain. These ancient earth-works were on a gigantic scale, the whole population was employed upon them for mutual defence, and they were never destroyed. They may often have towns or castles built in them at later periods, which to some extent efface their ancient character, but such banks and such trenches as were made in primitive times were never destroyed, and hardly can be destroyed; the bank may be removed in parts, and the trench filled up in parts, but it is sure to leave plain traces behind. The tops of nearly all the hills in England and in Gaul were fortified in this manner, sometimes these great earthworks are considered as natural formations, in other instances they are called Cæsar's camps, because they were afterwards occupied by the Romans, but they were often constructed by the natives to oppose the Roman invasion, as Julius Cæsar plainly tells us. Such ancient fortresses are found all over the world, in the East as well as in the West; in Palestine they are very remarkable, and Jerusalem itself is built on a strong earthwork.

In Italy the fortified villages on the tops of the hills are visible everywhere, sometimes still inhabited, sometimes deserted; before the foundation of Rome all the important high hills had been fortified for many miles round. The Janiculum, the most commanding spot in the immediate neighbourhood, the Quirinal and the Capitol were all occupied, and therefore fortified. The Palatine, the Cælian and the Aventine were not occupied, being so much less strong than the other hills. These were taken possession of by the new settlers. At first the Palatine only, but to make this secure it was necessary to have two wings to it. One to keep up the communication with the Tiber, then the high way for provisions and materials of all kinds. This wing was called the *Velabrum*, and it is probable that boats could sail up to the foot of the Palatine in a sort of port formed by the mouths of the small streams that run down from the Palatine on both sides, and from part of the Quirinal, passing between the Palatine and the Capitol, and the Marrana, or small stream that runs round the base of the Cælian, and then between the Palatine and the Aventine, where it formed a marsh, which served as a protection to the west side of that hill. On the eastern side another protection was necessary, and another wing was formed by digging a great trench at the foot of the Esquiline, leaving a space for a fort to defend the approach in that side. This wing was called the Velia, and on this the great Basilica of Constantine and the arch of Titus were afterwards built. The trench remains with the earth, supported by a wall on each side of it, and in this trench is a road, now called Via del Colosseo. This trench is about twenty feet below the level of the ground, and forty feet wide; it has a row of houses down the eastern side of it, and the present road or street on the western side. The cliff on each side is vertical, and supported by a wall, and trees may be seen growing on the ground, nearly level with the top of the wall on each side. On the west side of this trench is the earthern fort, which is nearly triangular, and one corner of it is cut away to admit the great Basilica of Constantine. This and the Arch of Titus opposite to it stood on the Summa Via Sacra, from which the Clivus Sacer descended to the Via Sacra, and the Forum Romanum on the north.

To the south another road descends rapidly to the Colosseum and the arch of Constantine. This appears to have been afterwards made a covered way by the buildings over it, but the incline or *Clivus* is probably natural or very antient. The Arch of Titus, therefore, stands close to the natural position for the principal gate of the city of Romulus on the Palatine, and there are remains of a very early gate on this spot. From thence the road would turn at an angle up to the platform on the surface of the Palatine. This hill has so long been built over, and the buildings renewed so many times, that it is difficult to see the original plan. Nevertheless, the demolition of the buildings, and the excavations, have brought a great deal of it to light. It is easy to see that the upper part of the hill has had the edges cut into vertical cliffs, with terraces under them, as in other primitive fortifications. The natural soil here being friable, the cliff required to be supported, and this would commonly be done at first with wood only, but Romulus appears to have begun a stone wall immediately. Part of this wall remains at the north end towards the west, and round the corner on the west side, near the church of S. Anastasia. The architectural character of this wall is exactly the same as that of Fiesole, and other Etruscan cities, where the building material is the same.

This kind of stone, called *tufa*, naturally splits into oblong blocks of large size, and of these blocks the walls are built; the stone has only been split off the rocks, not cut with the saw, and there is no original cement, or at least no lime mortar. Along the north end of the hill, opposite to the Capitol, the foundations of towers of the same period remain at regular intervals, evidently left unfinished and built over in the time of the Republic, of the Empire, and in the Middle Ages; but all these buildings being now destroyed, the original foundations have been brought to light. These foundations have only been excavated within the last few years. They are shewn in some of my photographs, with walls of the time of the Republic and early Empire built upon them and in them. They extend along the whole of the north end of the Palatine, opposite the Capitol, and appear to have never been completed, probably, in consequence of the peace with the Sabines. This north end of the Palatine was the Arx or Citadel of Romulus, that was betrayed by Tarpeja to the Sabines on the Capitol opposite. There was a zig-zag road up the cliff, at the north end of the hill, leading from the spring where S. Georgio in Velabro now stands, and where the Janus or Arcus Quadrifrons is placed.

This was the boundary of the Palatine fortress in that direction, and the zig-zag path led up from that to the Porta Romana, near the east end of the north front. On the west side there are remains of the old stone wall in several places, over S. Anastasia as well as under it. After passing the south end of that church the wall turns to the east, across the Palatine, towards the Arch of Titus; part of this wall on the south side of the Citadel of Romulus is visible in the Pontifical part below the cliff, on the terrace, and another part in the Farnesi gardens, now occupied by the Emperor of the French. It supports the cliff on the north side of the foss, and the Villa Mills stands on the cliff on the south side of this foss, but no tufa wall is visible there; on that side of the foss the earth is supported by a concrete wall only. In this great foss (which Signor Rosa considers to be a natural *intermontium*) various buildings had been erected in the time of the Republic and down to the time of Augustus. The later Emperors carried their great palace where the state apartments for the grand ceremonies were situated, over the foss on a level, and made subterranean chambers of the old buildings that stood there before.

The southern part of the Palatine (now being excavated by the Pope), with the Velia and the Velabrum, formed the City of Romulus as distinct from his Citadel (which now belongs to the Emperor of the French, and is being excavated by him). The Cælian was soon added to it, and the Aventine taken possession of as a pasture ground. This was not so strongly defended as the Citadel and the City. There was no outer wall or *moenium* made to it, the natural position being sufficiently strong for the purpose. For this reason there was no *Pomœrium*, or *Post-mœnium*, to the Aventine, until the time of Claudius. The *Pomerium* was originally a local technical name for the *Slype* behind the wall and the foss, and as the cliffs of the Aventine were the defence, there was no outer wall to it until that time.

When the union with the Sabines took place, the Capitol, the Quirinal, Viminal, and Esquiline were added to the city, and these, with the three previously occupied, made the seven hills. The Janiculum was a separate fortress connected with the city by a covered way, that is a road in a foss or trench, with a bank by the side to protect it. The seven hills were combined into one fortified city by the later kings, the two Tarquins and Servius Tullius. The plan adopted was to make use of the existing hill fortresses, and connect them together by a short agger, or bank and foss, across each of the valleys; this connecting wall was brought high up to the valley, in order that the outer part of the early hill fortress might serve to protect the approach to a gate. The one from the Esquiline to the Cælian passes under the north end of the Church of S. Clement, where it has been excavated by Father Mullooly, and remains visible. The one from the Cælian to the Aventine is not far from the Palatine and the Circus Maximus. It was excavated in 1868 and 1869, under my direction, and the remains of the Porta Capena found in it. The sill of that gate, which remains *in situ*, is only three yards wide; this is in accordance with the laws of the twelve tables, and it will be remembered that in the hill fortresses of the Jews, there was room for only two persons to pass at the gates.

Another short agger must have gone across the valley from the site now occupied by S. Sabba to S. Prisca, if the valley which divides the Aventine into two parts is natural. There is some doubt whether it is not a great trench, as there is no natural stream of water through it, though the aqueducts were afterwards carried through it. The Tiber then became the boundary of the city as far as the Capitol, and against the bank of the river a tufa wall was built by the kings, called the "*Pulchrum Littus*," part of which remains visible with the mouths of the Marrana, and of the Cloaca Maxima left in it. The arches over each of these openings are of later date than the sides. That over the Marrana is mediæval, with a mill built over it, the wheel turned by the stream of the Marrana. That of the Cloaca Maxima is of the time of Camillus, after the capture of Veii, and is of cut stone, inserted in the older wall of tufa.

Another short agger went from the Tiber to the west end of the Capitol, with three gates in it, and one more from the east end of the Capitol to the Quirinal; then the cliffs of the Quirinal complete the circuit of the city. The ground at the foot of the Capitol is so entirely built over and altered by modern streets, that these two short aggers cannot now be traced. The great foss on the north side and at the two ends of the Capitol can be traced: the part at the west end was widened by Trajan to make his forum in it. But on the eastern side the three hills (called *Colles*) are only promontories from high table land, and on this side the great agger of Servius Tullius was made for more than a mile, connecting the cliff at the north end of the Quirinal to that on the east side of the Esquiline. This completed the fortifications of the city proper, but it was usual in all fortifications to have a wall of enclosure called an *enceinte*, forming a double line of defence; and Tarquinius Superbus, the last of the kings, began another great agger, parallel to that of Servius Tullius, but some distance to the east of it. On this bank the aqueducts were afterwards carried and the wall of Aurelian was built. This great external fortification was of much greater extent than was required for the population of Rome at that period, and the enormous labour required for it caused the great rebellion, under Brutus, which ended in the establishment of the Republic. The agger of Servius Tullius has long been considered as an established historical fact, and it can be distinctly traced along its whole length. Part of it was destroyed in making the railway which cuts through it obliquely, and at this point part of the bank, faced with the wall of tufa is left visible, and the great inner foss, with a paved road at the bottom of it, twenty feet below the surface, was shewn in digging the foundations of the new railway station. A street of the time of the early Empire had been made on each side of this agger, or bank of earth. The backs of the houses were built into the bank, which was excavated for the purpose, so that there were no back windows to the houses. From this cause the agger was, in this part, entirely concealed in the time of the Empire, and it is only the demolition of the houses that has brought it to light again. The remains of some of these houses were excavated, in 1868 and 1869, by four of the young Roman Princes, who united for that purpose.

The great outer agger of Tarquin is disputed by some of the local antiquaries, but it is perfectly evident that the high wall of Aurelian is built upon older fortifications of less height, called *Mœnia.* This was a bank and foss faced with a wall of tufa; this stone wall was destroyed in making the high wall, but the old stones were used in many parts, and several of the gates are before the time of Aurelian, as shewn by the construction and by inscriptions upon two of them. The wall of Aurelian is in parts also built against a scarped cliff, in many places the ground being from ten to twenty feet higher within than it is in the road on the outside of the wall.

We must not conclude that, because the great fortification was faced with a stone wall, the inhabitants of Rome, in the time of the kings, lived in stone houses. On the contrary, it is recorded that the house of Romulus was a wooden hut only. This was carefully preserved until the time of the Empire, and had been seen by one of the writers who mentions it. The only stone buildings within the walls were a few temples, the houses were entirely of wood, and most of the temples also. At that early period stone temples were quite the exception, even in the most civilized countries. When a great deal of ornament was used in their buildings, the ornament was of wood or of bronze, *not of stone.* In the temple of Solomon at Jerusalem, the earliest building of the kind of which we have any record, all the ornamentations were of cedar-wood and bronze. The walls were of large blocks of stone, very similar to those of the walls of the kings at Rome, only larger, and as a general rule the older a wall is the larger the stones are, but this must of course depend on the building material.

In the remains of the other fortified cities of the early period, such as Fiesole and other Etruscan cities, or in the cities of the Latins, such as Gabii, we do not find any remains of houses; there are commonly one or two temples, not of such early character as the walls, and sometimes a fortified palace or *arx*, but the houses were mere huts. The modern village of huts only, which may now be seen within the walls of Gabii, and is shewn in one of my photographs, is probably of exactly the same character as that of their predecessors three thousand years since. It was, therefore, no great hardship for people in such a state of civilization to be removed with their flocks and herds from one city to another, wherever safe fortifications for their families and pasture for their cattle were provided; they were contented to go or remain. This accounts for the rapid rise in the population of Rome; the Romans for several centuries adopted the plan of transferring the inhabitants of the conquered cities to Rome, their flocks or herds were added to those of the Romans, and increased the wealth of the city.

Many of the original cities conquered by the Romans have never been inhabited since; their walls remain, but the walls only, or they are *nearly* all that remains. Sometimes a Roman colony has been settled within the old walls, probably in part to defend them, and hinder an enemy from making use of them. They were sometimes inhabited in the middle ages also, as at Gabii, where we have a mediæval church made out of a tomb of the first or second century. At Veii the *insula* was originally a detached fortress to defend the approach to the city; this became a village, and is still inhabited. Collatia became a mediæval castle, now called " Lunghezza." In other cases, as at Fidene, the scarped cliffs and traces of the gates are all that remains visible. It was not until after the introduction of lime mortar into general use that houses of stone began to be built, and then public buildings were erected before private houses. Lime mortar is supposed to have been a Greek invention; it was not brought into use in Rome until after the time of Camillus and the capture of Veii and the subjection of Etruria. We have no evidence of the use of lime mortar in any other places at any earlier period. It was either a Roman invention or was very soon introduced there, and brought into use. There is no lime mortar in the early Grecian temples, nor in eastern countries at any earlier period. Brick came into use in Rome very soon after lime mortar. The earliest walls with mortar are of rough stone only, and with a profusion of mortar, but they soon began to face these rough stone walls, called *concrete*, with brick to give them a smooth surface. They also, at an early period, used small blocks of tufa cut into the shape of bricks, but usually of rather a larger size, and these blocks continued in use for some time simultaneously with bricks. We read of bricks at a much earlier period, both sun-dried and kiln-dried, but the bricks of Babylon and other earlier cities were cemented with bitumen only, or sometimes with slime or mud, where bitumen was not to be had.

The earliest wall in Rome built with lime mortar is the high concrete wall at the north end of the Palatine supporting the cliff near the middle of that end of the hill. This has been built of rough stones, grouted in with fresh hot lime, and the outer face supported by a wooden frame, which has been suffered to remain until it decayed. The large grooves left by the vertical and horizontal beams are distinctly visible. In one of these horizontal grooves a terra-cotta water pipe has been introduced at a long subsequent period after the wood had decayed. This pipe appears to have carried water to the reservoir for rain water, made in a cave behind the tufa wall, called the wall of Romulus. The date of this early concrete wall is not recorded; the earliest dated building of this construction is the Emporium on the bank of the Tiber, about two centuries before the Christian era.

The celebrated wall called the "Muro torto" (because it is distorted by the giving way of the foundations) is an enormous mass of concrete, faced with net-work or *reticulated* work of early character, and with the angles formed of the small blocks of tufa, before described as looking like large bricks of a grey colour. This wall there is reason to assign to the time of Sylla, or about a century before the Christian era. The fine tomb of Cecilia Metella belongs to about the same period. She was the wife of the rich Crassus, who was the first to use marble columns in a private house in Rome. Her tomb is faced with stone, an early example of the use of travertine; it is lined with brick, but the mass of the immense walls is of concrete. Those walls are about thirty feet thick, leaving only a comparatively small round opening in the centre for the sarcophagus.

The Pantheon of Agrippa, built a few years before the Christian era, has also walls of enormous thickness, the mass of which is concrete, faced with brick, and the brick is bound together and fixed to the concrete mass by a number of arches of construction.

The buildings of the time of Julius Cæsar are generally faced with large blocks of travertine, well cut and well fitted together, but quite plain. There is a fine example of this period, or early in the reign of Augustus, in the "Vicolo del Ghettarello," at the foot of the Capitol, which we have ascertained to be a part of the great Mamertine Prison rebuilt at that period. The upper part, above ground, is the only part rebuilt; the lower part, in the cellars underground, still consists of the walls of the time of the kings, built of large blocks of tufa.

The buildings of the time of Augustus continued to be still frequently quite plain, during the early part of his reign—that is before the Christian era. The Arch of Dolabella, which is dated by an inscription upon it, A.D. 10, is of large blocks of travertine, well cut and thoroughly well built, but quite plain. The great high wall that encloses the eastern side of the Forum of the Cæsars, called of Augustus, is also very plain, and is more an adaptation of that part of the great wall of the city in the time of the kings, altered in the time of Augustus, than an actual new building. The arch, or gate, called the *Arco di Pantano*, is of *travertine*, inserted in a massive wall of *tufa*. The wall which separates the Forum of the Cæsars from the Forum Transitorium of Nerva is of *travertine*, inserted in the lower part of the high wall of *tufa* before mentioned. This is now behind the houses opposite to the remains of the Temple of Pallas, and near the "Torre de' Conti," which is built upon part of a great wall of tufa, at one of the angles. The cornices of this wall of *travertine*, and of other walls of the time of Augustine, in the early part of his long reign, consist of a plain square band projecting from the face of the wall, as simple as possible.

During the long and peaceful reign of Augustus great progress was made in the fine arts, including architecture and the construction of walls. According to some authorities, the time that Christ was on earth was precisely the period when the arts were in the highest state of perfection in the Roman Empire. This view is hardly borne out in strictness by existing remains, but it universally agreed that, during the first century of the Christian era, the arts were on a higher state of perfection than they had ever been before, or have ever been since (unless, perhaps, an exception is made for architecture in the thirteenth century—but that does not apply to Rome). Architecture is generally a guide to the other arts.

For the construction of walls, the brickwork of the time of Nero is the finest in the world. The bricks with which the walls are faced are so thin that we can count ten to the foot, including the mortar. This perfection did not continue long. In the second century there are eight to the foot, in the third century six, and in the fourth century, four only, as in modern brick walls. This is a useful general guide to the age of a building in Rome, because the walls frequently remain when all the ornament has been destroyed. The Roman temples of the first century were better than at any other period, but their marble temples were never equal to those of Greece, and some of the largest and finest buildings in Rome, belong to the second and third centuries, although their details do not equal, in purity, those of the first. The magnificent thermæ of the Antonines, called after Caracalla, are not equal in the construction of the walls, or in the architectural details, to the thermæ of Titus and the House of Nero; but there can hardly be said to be any perceptible falling off in the buildings of the time of Trajan and Hadrian. Many of the temples were rebuilt by Septimius Severus in the beginning of the third century, and their old names retained, as we are expressly told by the historian of his life, and this is a point always to be considered in examining the Roman temples.

Of the temples and other buildings before the time of Augustus we have, in general, only such remains as serve for historical purposes, but not as models. The buildings of the time of Augustus that remain sufficiently perfect to be considered as models, are the Theatre of Marcellus, the Temple of Fortune, near the Tiber, and the Arch of Drusus. The remains, in an imperfect state, are numerous and important, and some of the bridges are nearly perfect.

Of the second half of the first century we have the Arch of Titus; the early part of the Colosseum; the House of Nero, or, at least, several chambers of it; the Temple of Vespasian and Titus in the Forum.

Of the second century the remains are numerous. A large part of the Colosseum is of this period; the remains of the thermæ of Trajan and his celebrated column; the portico of the Pantheon; the Column of Antoninus Pius; the Temples of Marcus Antoninus, and of Antoninus and Faustina.

To the third century belong some of the grandest and most celebrated of the existing remains. The great thermæ before mentioned; the Arches of Septimius Severus; the portico of Octavia, as restored; the great wall of Aurelian, of which many parts remain nearly perfect.

The beginning of the fourth century, the time of Maxentius, was a great building era, and we have many buildings of that period remaining; but after the accession of Constantine, the Senate ordered that all these buildings should be called after his name, and the name of Maxentius obliterated. To this period belong the great Basilica, or Market Hall, near the Palatine, called the Basilica of Constantine; the round Temple of Romulus, the son of Maxentius, at the foot of the Clivus Sacer, now part of the Church of SS. Cosmas and Damian; the Circus of Maxentius, on the Via Appia, and the round Tomb of Romulus near to it.

The removal of the seat of Empire by Constantine was fatal to the prosperity of Rome as an Imperial City. He also gave all the Imperial estates in the Campagna to the Church, as endowments for the chapters then formed, and as those estates had supplied the funds for the buildings of the city of Rome, this transfer completed its ruin. After that time, the history of Church Architecture, and of the Middle Ages, begins.

The construction of the walls of the Circus of Maxentius and the other buildings of that period is very bad, and shews how much the fine arts had declined at that period. We have the same construction in the interior of the gateway towers of Honorius, built about the year 400; it occurs, also, in foundations at a much earlier period; it is a cheap and strong construction, consisting of layers of small stones grouted in, and alternate layers of bonding tiles. But the circus of Maxentius and Romulus is the first instance in which it is used in towers and terraces intended to be seen. This circus was formerly called of Caracalla, but erroneously, as shewn by an inscription found there some years since. The same construction is usual in England in Roman walls of the time of Constantine.

It would be absurd for me in this place, and in a general sketch of this kind, to introduce any details about the difference between the Grecian and the Roman *orders*, as they are called, which apply only to the columns and entablatures—these are to be found in any school-book on architecture. I wish only to remark, what appears to me evident, that these Roman deviations were not developed until the third century, the earlier buildings are more pure.

It may be useful to remind you of the durability of Roman walls, and the cause of it. The early walls, as I have said, were merely masses of stone, put together without cement, and of course such walls, if let alone, are everlasting. After the introduction of lime mortar, their walls are equally durable, but from another cause—the lime was always used quite fresh and hot; it was pounded and mixed with a large proportion of gritty sand: full advantage was thus taken of the wonderful expansion and crystallization of lime as it cools The jagged edges of the crystals combine with the rough sand, or broken stone, or brick reduced to powder, and the mass thus formed is as hard and as durable as a natural concrete rock. English builders frequently have a prejudice against the use of lime quite fresh and hot—they say it bursts the walls, but this is because they do not pound it, or grind it, before they use it. A large lump of lime, when water is poured upon it, will burst through anything, but in a powdered state there is no danger of this. The principle of our modern cements, both that called Roman cement and that called Portland cement is the same—they consist of fresh lime pounded and mixed with rough sand or pounded stone, and *kept in air-tight vessels* until it is used. If this precaution is not attended to, lime absorbes moisture from the atmosphere so rapidly that all its binding power is gone before it is used. The more fresh it is, the more strongly it will bind.

After this period in Rome the churches are for the most part mere imitations of the old Basilicæ in which the early Christians had been permitted to assemble for worship, and the old materials are used again. In the fifth century, however, there are some exceptions to this. The church of SS. John and Paul and the Prætorium, or soldiers' church, of S. Stefano Rotondo are of good construction; this round building is of Byzantine character very much like S. Vitale at Ravenna originally, but altered afterwards, when it was made into a church. This is the last building in Rome that can be considered as of classical character, after that we have the mediæval buildings, which belong to another branch of the subject.

A few words on the construction of mediæval buildings in Rome may be interesting. It is rather difficult to say when the Middle Ages begin. In the west of Europe we generally mean by that term, from the eleventh to the sixteenth century, but in Rome it is usual to begin them at a more early period, and to include what some call the "Period of the Decadence," that is, from the fourth century to the tenth. For that long space of time, about six hundred years, we have scarcely any buildings remaining in England, and very few in France or Germany, because it was the habit of the people to live in wooden houses, and to make even the churches and public buildings of wood also. The Anglo-Saxon word for "to build" is "*timberen*," and in Normandy M. de Caumont sought in vain for any masonry on the sites of the castles of the Barons who came over to England with William the Conqueror. He found very fine earthworks, but no traces of stone building of that period. The Norman keep was invented by Gundulph at Malling, and rapidly adopted by the king, in the White Tower of London, and by the Norman Barons generally, as so admirably adapted to their wants at that period. A handful of brave men could defend themselves in one of these keeps against any number until succour could be obtained from the neighbouring barons.

In Rome, the fortifications are much earlier, and of quite a different type. The gateway fortresses of Honorius, built about the year 400, are an entirely different thing from a Norman keep. Each is a circular wall surrounding the old gate, with inner and outer gates, so that when one of the gateway fortresses is perfect, as at S. Lorenzo, you pass through three gates. The substructure of the flanking towers can be seen from within, as is shewn in some of my photographs; it is very similar to that in the Circus of Maxentius and Romulus before described, massive concrete walls, with layers of bonding tiles, faced on the exterior with the usual Roman brick-work, called "Opus Lateritium."

Some of these gateway fortresses were rebuilt by King Theodoric about the year 500. The most perfect of them is, perhaps, S. Sebastiano, the lower part of which is cased with marble blocks, taken from the ruins of a temple; the upper part of the tower is of brick, in a semicircular form, very similar to the belfry towers at Ravenna. But in all these cases, the mass of the wall is generally concrete. The brick facing is quite distinct from that of the magnificent wall of Aurelian in the third century. This wall, of which there are large remains, was one of the wonders of the world. It was thirteen miles long, fifty feet high, and had a corridor for the sentinels inside the wall, with an open arcade within and the solid wall without. The churches of the fifth century have been mentioned, Some of the classical buildings were restored also at that time, as we know by inscriptions preserved, but in a very inferior manner to the original construction. All the early churches had been halls in houses, and retain that form, which came to be considered the natural form of a church, and the name of Basilica, which originally signified the King's Hall, was adopted as that of a church.

That of the Holy Cross at Jerusalem is a curious instance of the adaptation of an old hall for a church. The main structure is of the second century, and is oblong, with the original arches for aisles. At the altar end of this, an apse has been added in the time of Constantine, when it was made into a church by his mother, S. Helena, who resided in the Sessorian Palace, of which this had been one of the halls. This shews that the idea of an apse had at that time come to be considered as necessary to make it a church, but in the fifth century round and polygonal churches were sometimes built, as at Ravenna and S. Stephen's before mentioned.

The great abundance of building material, including marble columns by the hundred, which remained in Rome from the time of the Empire, was in reality a misfortune to the Roman architects. To make use of these materials they continued to build in the old forms, not only during the period before the year 1000, but in the thirteenth and fourteenth centuries also, long after the magnificent English style, miscalled Gothic, had been brought into general use in the west. The porch of S. George in Valabro, of the middle of the thirteenth century, is a classical colonnade. The so-called Gothic style scarcely came into use in Italy until the fifteenth and sixteenth centuries. In general, the exterior of a church is not intended to be seen excepting the façade, which is usually a *sham*, a mere wall built up for effect, probably twice the height of the actual roof. On the other hand, the effect of the interior of a church of the Basilica type is very fine, the classical columns, though often of two or three different kinds, have a good general effect, and the mosaic pictures in the apse are constant objects of admiration. The columns down the two sides sometimes have only a horizontal entablature, often built of old fragments. Sometimes there are small brick arches behind this, and concealed by it; afterwards the arches are boldly shewn. The arch is the real characteristic of Roman architecture, and from this everything else has been developed. Some authorities say that the arch was used by the Etruscans, and taken from them by the Romans, and this is probable, but, in some instances, the arch of the gate of an Etruscan city is Roman on Etruscan jambs, as at Cortona, which is often cited as an early Etruscan arch.

In mediæval walls in Rome, the surface is often faced with small stones of a peculiar character, called "Opus Saracinisca," said to have been introduced into Italy by the Saracens, but it is really found occasionally in early Roman work, and was, probably, taken by the Saracens from Byzantium, and only brought back into Italy by them.

Not to weary you with further details, I will merely mention that, in the sixteenth century, the brick walls of San Gallo are so admirably imitated from those of Aurelian, that it is difficult at first sight, to distinguish the one from the other. Generally, perhaps, the buildings of the Renaissance in Rome are the finest that we have anywhere. They had admirable models before their eyes, and the people have never been willing to give up the glorious style of the Empire, to the memory of which they always cling with fond delight.

At the conclusion of Mr. Parker's Paper, the Chairman having invited discussion,

Mr. Burges, Fellow, enquired what progress had been made in respect of the excavation of the ancient marble plan of Rome, and whether anything further remained to be done with regard to it.

Mr. Parker replied, that several new pieces of that plan had been found, but that more remained to be found. The circumstances were these—the plan in question was made in slabs of marble, which now hung upon bronze hooks against a brick wall, at the back of the Templum, Urbis Romæ? now the Church of SS. Cosmas and Domian. All the lines were as sharp as when they were first cut. A very large mass of materials, forming a corner of the great Basilica of Constantine, was thrown down, it was believed by an earthquake, and fell on the pavement in front of the wall to which the marble plan was attached. The violence of the concussion broke the bronze hooks by which the slabs of the plan were suspended. The wall itself remained still a very strong mass of concrete, with portions of the hooks still remaining in it. The marble plan originally hung against this wall, which was faced with brick to receive it. The plan was not executed on the same scale throughout. Those portions which were at the top of the wall, and at a distance from the ground, were done in a rough way, so as to be seen from that distance; while the lower portions, nearer to the eye, were on a smaller scale and more finely executed. He contemplated making further excavations at that spot, and expected to meet with further portions of the plan. About two years ago the monks set to work digging there, but they found it expensive, and gave it up for want of funds. They advertised for funds, but the time was unfavourable for foreign visitors in Rome. He had obtained permission to re-open that pit, and contemplated doing so on his return to Rome.

Mr. **Burges** enquired whether any fragments of the plan, beyond the well-known ones in the Capitoline Museum, had been discovered?

Mr. **Parker** replied in the affirmative. They were found two years ago, and he had photographs of them.

Professor **Donaldson** remarked, that portions of the pavement of the church referred to as having fallen against this wall, had been placed in the Capitol Museum.

Mr. **Parker** added, that contemporary accounts stated that they were found in the same place, at the foot of this wall. Other portions were buried.

Sir M. **Digby Wyatt**, Fellow, enquired, how large a portion of the plan had been excavated?

Mr. **Parker** replied, it was impossible to say, the whole was so broken up. He intended to open the pit as a venture, and he hoped to find the other portions. Mr. Parker then called attention to a small painting of the Madonna, which he discovered in a small chapel of the sixth century, made in the corridor of the wall of Rome. It was one of the earliest representations of the Madonna he had met with. He discovered it whilst examining the wall of Aurelian. It certainly was not Mediæval. Those who had studied the subject pronounced it to be a sixth century work, but he could not vouch for it himself.

Professor **Donaldson**, on the subject of the first invention of lime mortar, remarked, that it would be found in the records of the Institute, that when he made his first journey to Egypt he brought home with him a large fragment of mortar, which he extracted from one of the pyramids. It was manifest that such a heterogeneous mass of stone as that, which formed the internal construction of the pyramids, could not have been put together without mortar to hold them, or to fill up the vacancies in the great mass. The inner chambers were lined with wrought stones, and presented a fair surface, and there was granite upon the face of the pyramids, but the centre mass of those structures was composed of very rough blocks indeed, the stone having been brought from the Mocattam range, on the other side of the Nile, and they could not have been put together, and the vacancies filled up, without mortar.

Mr. **Parker** said he had never been in the east, and no drawing would distinguish whether there was mortar between the stones or not. Such photographs as he had seen represented no mortar. He believed it was the same in regard to the Palestine explorations. Intelligent travellers in the east had told him they did not remember having met with lime mortar earlier than the time of the Roman invasion. They certainly did not find it in the earliest walls of Rome, and he believed it was not found in the Greek temples.

Sir M. **Digby Wyatt** corroborated the views of Professor Donaldson. Many of the earliest Egyptian monuments were laid over with a thin coating of cement, so that the hieroglyphics could be made upon them: and having been used in that period as a decorative element, it was most likely to have been used as a constructive element as well.

Professor **Donaldson** said, his own experience, when he examined the walls of Rome of different constructions, was that the tufa walls were certainly filled in with mortar. He drew a line between the old constructions and the new constructions; but he found, and it was a curious fact, that the joints of the front faces were brought close together, while the inside of the joints were filled in with mortar.

Sir M. **Digby Wyatt** remarked, that in his examination of the Cloaca Maxima he failed to discover any mortar.

Mr. **Parker** observed, that the wall of the Latins, on the Aventine, was cited as a case where lime mortar was used, but the fact was, it was modern mortar, and inserted at the time it was excavated in order to make the work look neat. The mortar was quite white, unlike the old mortar. Some portions of the Palatine work looked doubtful in that way, but he had understood to make them look neat they had been pointed with mortar an inch or two deep.

Professor DONALDSON. The outer joints closed, and the interior open, filled in with mortar.

Sir M. DIGBY WYATT remarked that the walls he had seen did not bear out the Professor's observations. Where they were finely worked in rectangular blocks, particularly in tufa, they did not, where the blocks were large, use mortar. Where the blocks were small, they did use mortar at an early period. In large blocks, when squared, they did not require it; where they were small, they did. He did not regard the non-use of mortar as an evidence of antiquity; but when squared stones were used without mortar that was an evidence of early construction.

Mr. PARKER would be glad to learn at what date lime mortar was first used. He could not trace it to an earlier period than three centuries before the Christian era.

Sir M. DIGBY WYATT added that the Indian and Egyptian monuments would show a much earlier use of mortar than that, both constructively and ornamentally.

Mr. PARKER, on the question of the thickness of the mortar joints being an indication of the age of a building, remarked that all early work had thick joints, and it was not till the twelfth century they got fine joints. It often happened that in long and short work at the angles it was joined as close as possible. Usually it is a distinction of twelfth century work. In the castle of Sherborne, William of Malmesbury notices that the joints were so close that it looked like one stone.

Professor KERR hoped that Mr. Parker, whose antiquarian accuracy was much relied upon, would reconsider the apparently secondary question of the early use of lime mortar. He felt sure it would be discovered that the opinions which Mr. Parker had advanced were not merely hasty conclusions as to matter of fact, but such as to undermine received opinions upon the very groundwork of structural art. The condition of stonework cemented together was theoretically most essential to one's impressions of primitive architecture. As regarded the question of fact, there seemed to be no doubt that the Mosaic record described with perfect clearness various circumstances, sometimes directly, and sometimes indirectly, which were indeed conclusive, and of complete historical intelligibility. The Tower of Babel, for example, was built of burnt bricks and bitumen: "To them," said the record (in corrected translation) "a brick was as (or for) a stone, and bitumen for clay," (in our Bibles "and slime had they for mortar"). No doubt, in the common building operations of the period, unburnt bricks (such as the Israelites made in Egypt) were cemented together with tempered clay. As to the distinction drawn by Mr. Parker between "slime" and bitumen, he would be able readily to satisfy himself, by the allusions, for instance, to the valley of the battle of the kings being "full of slime pits," and by the obvious connection between the circumstances of the destruction of Sodom and Gomorrah, and the prevalence of such bituminous deposits, that slime is the mere translational term for bitumen, expressly meant to be understood in the original. Herodotus also described, quite distinctly, the use of bitumen in the great wall of Babylon, with reed-mats for bond. In short, the use of a cement of some sort had been a principle from the very commencement of building—first, clay; then bitumen; lastly, lime: and the last by no means late in primitive history.

Sir M. DIGBY WYATT again rose, and said the moment had now arrived when he believed he might ask the permission of the Chairman to be allowed to propose a vote of thanks to Mr. Parker for his admirable paper. It was gratifying to find that the same energy which had led that gentleman to investigate the remains of the mediæval ages in this country left him with equal energy and still greater ability, tempered by previous study and matured by experience, to enter upon the study of the remains of perhaps the most interesting site in the world—Rome. They could not but feel, whilst Mr. Parker carried them over the ancient fortified defences of that city, how great a parallel it found in this country in the enormous earthworks that were carried along our great downs from one district to another; how much parallel they found with those early times of civilization which marked the foundation of Rome by Romulus. The exploration of the remains of ancient Rome, they all knew, had hitherto been a matter of great difficulty. In the Etruscan and other towers surrounding the Campagna of Rome they found an organised system of defence. In Rome itself they had found scarcely any remains whatever, except the Cloaca Maxima, and a few of the leading walls. Now they had laid before them, and fairly traced, a system of circumvallation and lines of defence showing the strong points of the city which presented a fair system of strategical resistance; and it was curious to find that in those early cases of laying out fortifications the site enclosed appeared greater than one imagined the population of the city required. That was interesting, because it showed that many of those cities were like those mentioned in the Bible, cities of refuge. While in times of peace, the herdsmen and proprietors of flocks were able to cultivate the soil and gather in their crops; in times of danger the impulse was to man the outworks of the country, and then retire into the inner fortified places, driving their flocks before them; so that this great wall afforded accommodation and protection, not only for the ordinary inhabitants, but for all comers who sought protection there. It was in this way they could account for the fortifications when the hand of every tribe was against another tribe. In tracing these same kinds of defences in Rome (which appeared hitherto without defence), and on a still larger scale in the earlier cities of Italy, they must remember they were speaking of the nursery of civilization—the centre and heart from which the arteries of all intelligence had throbbed till the present day. He said from the way in which this subject had been placed before them this evening—a subject full of materials for thought and study, though necessarily not amplified to the extent which its interest deserved—for the information which Mr. Parker had given them, he felt that they owed that gentleman a great debt of gratitude.

Professor **Kerr** begged to second the resolution of thanks, and he did so rather on personal than antiquarian grounds, for it was most gratifying to see a man of Mr. Parker's position, after passing a well-spent life, devoting a new life, as it were, to antiquarian researches in so interesting a locality as Rome. They would all congratulate Mr. Parker, and wish him even greater success in his future exertions in this direction.

The motion was carried with cordial unanimity.

Professor **Donaldson** directed the attention of the meeting to an instrument called the *Téléiconographe*, which had been presented to the Institute by its inventor M. Henri Revoil, Honorary and Corresponding Member, and which was described as a modification of Dr. Woollaston's camera lucida. By means of a prism placed at the end of the telescope, the details of buildings, etc., at long distances could be traced on paper with the greatest accuracy on a scale of magnitude never before attained. M. Revoil having generously presented the Institute with one of these instruments, accompanied by numerous drawings which had been made by its aid, the Council had caused it to be properly mounted on a stand, and it would be placed in the Library, where members would have the opportunity of examining it. On the motion of Professor Donaldson, a special vote of thanks was passed to M. Revoil for his donation.

The **Chairman** said before the meeting separated, he would mention another instance in which their thanks were due. It was the presentation of a bust of the late Mr. P. F. Robinson, a former Vice-President of the Institute, and one of its most active members. He was sure the meeting would wish to give their thanks to Mr. George Robinson for the present of the bust of his late father.

The thanks were unanimously accorded.

The following Paper was then read:—

DESCRIPTION OF THE APOMECOMETER, FOR MEASURING INACCESSIBLE HEIGHTS AND DISTANCES.

By Richard C. Millar, A. R. I. B. A.

I have much pleasure in appearing before you this evening, for the purpose of bringing under the notice of the Institute a small optical instrument which I have invented for measuring heights and distances. Unlike the generality of such instruments, its construction is simple, and little or no calculation required in ascertaining any measurement by its means. By its aid almost any height connected with a building can, with accuracy, be obtained, as well as the horizontal distances between inaccessible objects. This may appear a good deal to claim for such a small instrument, but I hope to be able to show you that such is the case. The idea first occurred to me while using a box sextant, that by setting the glasses to an angle of 45 deg., and moving backwards or forwards from the object, a point could be fixed, from which the distance to the perpendicular should equal the height without the use of trigonometry, or, in fact, any calculation whatever. I made one of ebony to take with me on a sketching tour through France and Italy, where I had many opportunities of testing its usefulness. After registering it, I got Stanley to construct them in their present shape, being more portable, as you may perceive, than the other.

The Apomecometer is constructed in accordance with the principles which govern the Sextant, viz.—As the angles of incidence and reflexion are always equal, the rays of an object, being thrown on the plane of one mirror, are from that reflected to the plane of another mirror, thereby making both extremes of the vertical height coincide exactly at the same point on the horizon glass; so that, by measuring the base line, we obtain a result equal to the altitude.

The instrument consists of two mirrors, A and B (fig. 1), fixed in a small box, at such an angle that, by the production of their planes till they meet, the angle A. D. B. would equal 22 deg. 30 min. And because the total deviation of a ray of light, after reflexion successively at each mirror, is double their inclination, the angle E.C.H. is equal to 45 deg.

In explanation of the manner of working with the instrument, H.E. represents the vertical height required; H.C. the horizontal line; A.E. the ray of light, or reflexion of the image at E, striking the mirror at A, and from that reflected to the glass at B; half of which is silvered, and formed into a mirror; so that, in looking through the aperture at L, the instrument being held in the hand in the same position as is shown, the point H. is seen by direct vision through the plain half, while the point E. is seen reflected in the mirror. These two points must be made to agree exactly—in fact, overlapping each other—in the glass at B. This is done by moving the instrument backwards or forwards along the horizontal line C.H.

DIAGRAM ILLUSTRATING THE USE OF THE APOMECOMETER.

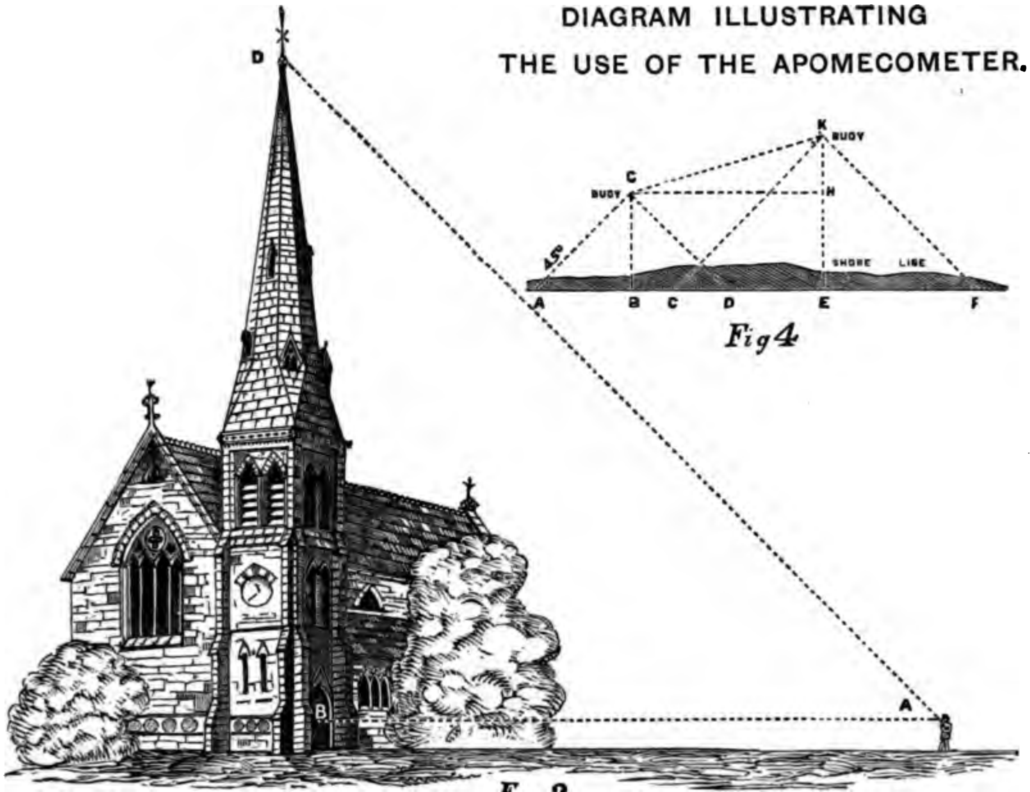


Fig 4.

Fig 2.

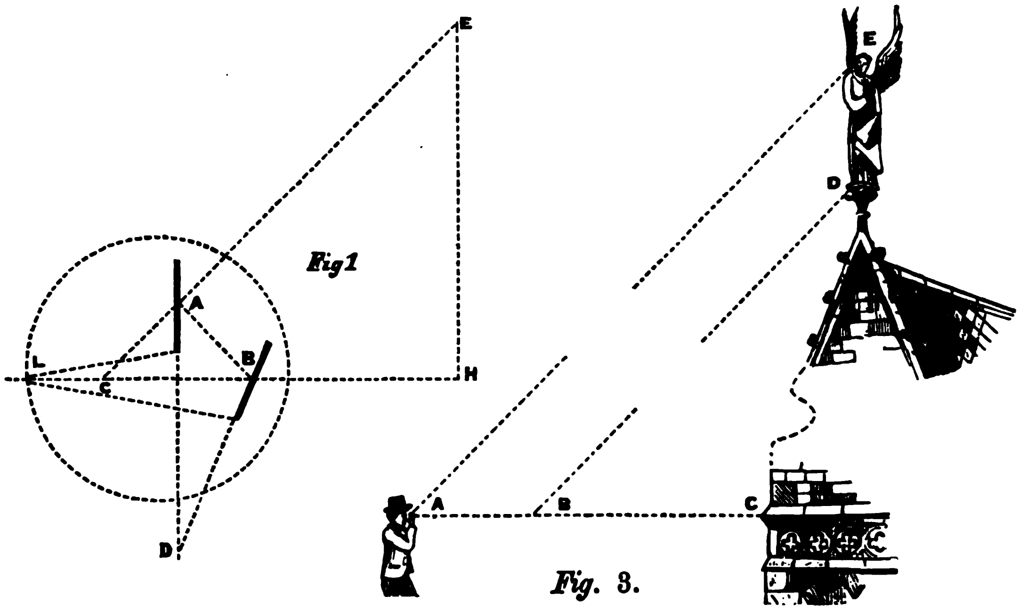


Fig 1

Fig. 3.

In order to illustrate the subject, suppose we wish to ascertain the height of the tower and spire (fig. 2). Walking up to about the point A, we assume some mark on a level with the eye,—say the handle of the door at B. Looking through the instrument, we move backwards or forwards, till the apex of the spire at D, seen by reflexion, coincides with the handle at B, seen by direct vision; this can be done in a moment, and with the greatest accuracy—even moving a few inches from the exact spot at A. will make a difference, and be at once detected. Then, the distance from the point A, at which we stand, to the centre of the tower, is equal to the perpendicular height from the handle of the door to the apex of the spire, to which the height of the handle from the ground can be added.

The whole accuracy of the working depends on assuming a mark at the proper level with the eye, and in a vertical line with the higher extremity of the height we are about to measure, and also measuring exactly to where a perpendicular, if let fall, would drop. A little practice will make this easy, and if done correctly, the result should come—even in a high building—to within an inch or two of the actual dimension: for so sensitive is the reflexion on the glasses, that the smallest divergence from the exact spot is capable of being perceived. If, for instance, in measuring the tower, the mark on the building be taken at a wrong level, the error will not be increased in any appreciable manner. As in the case of the spire, if the point B. be taken at three inches below the horizontal line, it would make the building four inches too high; however, in taking interior dimensions with a level floor, no such difficulty should be experienced. I do not wish to lead you to suppose that the Apomecometer is applicable in every case. There are a few isolated instances in which it will not act; as, when a building is erected on the summit of a steep hill, in such a manner that we cannot approach it, at some side or corner, in order to assume a point on a level with the eye. It is also necessary, in taking a height, to be able to recede from the perpendicular line to such a distance as to have a clear space equal to it. However, this condition would not prevent the height of a house in a narrow street being obtained, for we are not bound to stand opposite to the height measured, provided both points chosen are in a vertical line; consequently, the result might be ascertained from the path in front of the house.

The Apomecometer, from its construction, is adapted to another series of measurements; such as obtaining the heights of windows, statues on pediments, chimnies, &c. As, for instance, (fig. 3), the height of the statue is required; the first thing to be done is to get the point E, or head of the statue, to agree with some mark at the base of the building at C, on a level with A, leaving a mark there, and walking on till the point D, or foot of the statue, coincides with the mark at C, which it should do at B; then the distance from A. to B. is equal to the height of the statue.

Horizontal distances can be taken in a similar manner as heights are obtained, by using the instrument on its side. Fig. 4 represents two buoys out at sea, to which the distances from the shore are required, and also the distance they are apart. A base line is all that is necessary in order to take the observations. The angles at A.C.D. and F. are taken with the instrument by moving backwards or forwards along the base line A.F. Half A.D. equals A.B. or B.G., the distance of the buoy at G.; half C.F. equals E.F., or the distance of the other buoy from the base line. The distance H.K. equals E.K. minus B.G., therefore in the right angled triangle K.H.G. the sum of the squares of the sides, subtending the right angle, is equal to the square of the hypothenuse, or the distance G.K. between the buoys.

I have now, gentlemen, to thank you for your kindness in following me through this long explanation, and should you become better acquainted with the instrument, I trust it may prove both useful and valuable.

The Meeting then adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 29th of November, 1869, Sir WILLIAM TITE, M.P., President, in the Chair, the following paper was read:—

ON SOME OF THE DIFFERENCES OF STYLE IN OLD BUILDINGS.

By G. E. STREET, A.R.A., F.S.A., Fellow.

I must preface what I have to say to night by a few words of apology for an apparent change in the subject upon which I undertook to speak. This change was in truth involuntary. I thought to say somewhat upon the various opportunities of study which seem to me to lie open to us now-a-days, but when I came to look at them I found that I might do much better by confining myself to one of them, and that even then, the time would be all too short to say all that ought to be, and might be, said on the subject. I confine myself, therefore, to-night to bringing before you some considerations as to the causes which produced the differences of style observable in Mediæval buildings throughout Europe. The subject is one full of interest, and has the special advantage to me that it has, so far as I know, seldom if ever been properly discussed. Men have written and talked and lectured too much as though Gothic architecture could have its history concisely written in a few chapters on one country, and as though by the time a man had mastered his Rickman or his Violet-le-Duc he had covered the whole ground that was open to him. This ignorant mistake (I can call it nothing else) is likely to be, as it has hitherto been, calamitous in its consequences. Looking at its effect upon modern work, I think one may see that we run very great risk of getting too much into the same particular grooves. It is impossible to look at our new buildings without feeling only too often that they are the result, not of original study, but of thoughtless acquiescence in laws which have been laid down by common custom, or by the practice of some one popular man. Take for instance our ecclesiastical architecture, and what do we see? Our new church consists almost always of a building planned within very close limits as to variety. We have the eternal nave aisles and chancel without end or variety, and with as few evidences as possible of the personal feeling of the artist, whereas if we look carefully and largely at old buildings, we shall find that they show much greater variety than ours, and that their architects were much less hampered and restrained by self-imposed rules than we allow ourselves to be. No doubt it is always more easy to see what other men are doing and to follow their lead, than to study and think for one's self. And to-night in speaking especially to those who are my juniors—for to my seniors all that I can say is no doubt already well known—I wish to point out to them the extreme interest and pleasure which they may derive from the study of their art if they will but go into it patiently, thoroughly, and lovingly, and with a view to analyzing all the causes of its variety.

And I venture to assure you that such study is the only true road to real honour, or real reputation, or to that credit with your countrymen hereafter, which seems to me to be the one glorious difference between our art and most other pursuits now-a-days. To-night I can do no more than draw an outline on the canvas, which each of you will be able hereafter to fill in for himself. For, as I shall show you, it is the special glory of our national architecture that its developments are so many, so various, and so true, that no one who has both zeal and brains can avoid having his enthusiasm awakened in the course of his study. Nor is it a slight matter for joy that in all his studies, and in all his work, he will find that he is dealing with men placed exactly as he is now, and that the more he knows of their means and the difficulties they overcame, the more he will see that they were precisely those which he has to meet, day by day, in his own work.

Now, the differences in style in old buildings are very great, and the result of various causes. It is to be observed, first of all, that though mediæval art is in one sense entirely harmonious in all parts of Europe, it is equally true that it is sub-divided endlessly by little distinctions of district, province, or country, which serve practically to create endless varieties of style and detail, all in progress at the same time. It has been very much the custom to assume that these local varieties indicate divergences of principle, so that it is not safe for one man to study more than one of them. This is simple nonsense—for it may much more truly be said that no one does understand Gothic art who has not studied that of more than one country; and it is most undoubtedly true that there is as much difference in the style of old buildings in the various counties, districts or provinces of one country, as there is between any one of these and some one variety of the work of another country.

The work of old architects owed not a little of its vigour to its variety. Each man who had any inspiration did the best he wot of, and of course produced his school of followers. But the fact that so many men did this, shows how infinite are the life and variety of which Gothic architecture is susceptible, always in strict obedience to the true principles upon which it was founded.

The causes of variety were numerous, and each one of them deserves a separate chapter in a treatise. Among them are such as these:—

(*a*) The requirements of material—which are obviously different in districts which allow of the use of only (1) stone, or (2) brick, or (3) timber.

(*b*) The influence exercized in certain districts by exceptionally gifted architects.

(*c*) The spread of art-knowledge by orders of men, such as (i). Freemasons; (ii). Religious Orders, whose habits gave them knowledge of countries other than those in which they were for the time working; and (iii). In the course of conquest or colonization of one country by another—and lastly (iv). The employment (not at all uncommon in the middle ages) of foreign architects.

(*d*) Attempts in one age to copy work done in a previous age.

You will see from this list how much more might be said than I shall have time to say to-night; so let me try to say a few words on each of the heads which I have enumerated.

The requirements of the most available material certainly played no small part in the history of architectural development. We must remember that of old an architect was almost compelled to use the material nearest to his hand; water conveyance was the only chance he had of importing the material of one district into another, and of this ample use was made. But of course the opportunities were rare. You all know that Caen stone was, to some extent, used here at a very early date. Portland stone was transported to Cornwall, as I remember telling you in this place when describing the Church of St. Michael Penkevel. Stone from the South of England was taken by water to the Humber and used at Hedon Church; stone from the Isle of Wight was brought to Winchester for the building of the Cathedral; marble from Carrara was brought to Genoa for the Churches, from the mountains it was carried down to Milan for the Cathedral, and from over the sea it was brought to Venice to veneer the native brick walls of the Palaces and Churches, whilst to a great part of England it was carried from Petworth and Purbeck. So (if it is not out of place here) goes the old tradition about the glorious Tower of Probus. To account for its possession by so poor a place, it is said that it was ordered in foreign parts, put all aboard of a ship, and—fortunately for Probus—brought by unskilful mariners there instead of to Truro, for whose Church it was intended. But in spite of such cases as these, as a rule it is true that every architect wrought in the material which was nearest to hand, and in so doing dignified his art by proving that no material which God had provided was unworthy of it. Honest, however, as the artist may be, there can be no doubt that the possession of a good material is of vast importance to the architect, and consequently that we, who enjoy such unbounded power of carriage and importation of fit material, must be judged in our work by a far higher standard than that which can fairly be applied to many of our forerunners. I have often felt, and I doubt not my experience is that of most of you, the strength in design which the power of using freely a good building stone gives. I declare that when I am using a good stone, in the neighbourhood of the quarry, where there is no extravagance in being choice in one's mode of using it, there is a sense of freedom and power, a feeling of life in the knowledge that one's work will last for centuries, which enables me to design with a degree of happiness and delight in my work which in other cases is almost wholly absent.

So it was in the Middle Ages. A good stone country produced good masons; they produced from time to time excellent master masons; the country about them became proud of their work and gave them plenty to do, and so from age to age they produced a succession of buildings all worthy of our admiration. How should we have had Wells and Glastonbury without the quarries at Doulting, or Peterborough without the quarries at Barnark, or Lincoln without those at Haydor, or York and the Yorkshire Abbeys without similar magnificent supplies of building stone near at hand. It was difficult to build badly with plenty of good stone to build with. The dignity of the material was a safeguard against utter badness of workmanship. And so the best art in England and elsewhere is found nearest to the best stone quarries.

But at the same time it is very much to my point that wherever such quarries did not exist, or wherever stone could not be procured in the neighbourhood, there the artists did their best at once to make the most of the other materials which were available.

Throughout Europe the early architecture was the work of stonemasons, and the carpenter and the bricklayer were but little esteemed. But when in the middle ages other materials had to be used, there arose the first opening for a difference of style caused by a change of material. Take the case of a granite country—go to Guernsey for instance, where granite was plentiful, and where there was no timber to be had, and you find buildings expressly contrived to meet this state of things. The churches are long narrow buildings; very rude in style, of course, because the granite was intractable; covered with arched roofs of rough granite carrying the outer roofing without the aid of any timber; the walls of necessity very thick in order to support the weight of the roof; and the windows, doors and arches plain and rude, because polish and finish in such a material was almost impossible. With all their rudeness, however, these Guernsey churches are full of interest and character. Allied to them in construction are some far-away churches built under similar conditions, Such I believe are to be found in Wales, and one of the most interesting description has come under my notice at Bolton, in Cumberland, where the same system of an arched roof resting on thick walls and carrying the external roof is also seen. St. Cormack's Chapel, on the Rock of Cashel, is an Irish example of the same sort; and on the Continent the examples are very numerous of churches into whose construction no timber found its way. Take for instance the churches of Auvergne or Perigord. Here we see an attempt made to construct buildings which should be as imperishable as the material of which they were built would allow. And whether (as is probable) because no timber was to be had in those bare volcanic districts, or whether solely on principle, the attempt was made to use stone alone. Perhaps those early builders saw what we don't usually seem to believe, that the use of one material alone is the surest way to building for posterity. Building with stone and timber at once imparts great convenience, but at the same time, the certainty of decay at some day; whilst building in metal and stone, which we nineteenth-century men pride ourselves so much upon accomplishing, involves the certainty of almost immediate decay. That these French buildings were nearly imperishable is proved by their perfect state of repair even now. They were first of all covered with stone domes or vaults, and then these were covered externally with large slabs of stone. The consequent effect upon the design of the buildings may easily be seen. Their construction involved enormous walls to support the weight of the central vaults, and of semi-barrel roofs in the aisles—forming continuous flying buttresses—to support the central vaults: and so we have in this class of churches buildings entirely different in most respects from those which were built in our own country at the same time.

Then again, to take another material, observe how very much the use of flint in various parts of this kingdom affected the style of design. In flint districts stone was scarce, and builders, who had to import their stone from the quarries at Caen or from some far-off part of their own country, were obviously likely to be very economical in its use. One possible economy was the erection of buildings with as few quoins as possible. Hence we find among the Norfolk churches several in which the towers are circular in plan, and in which accordingly the cut stone is reduced to a minimum. At Welford, in Berkshire, is a similar tower, and so built for the same reason. Again, the use of flint, when it had arrived at the perfection which we see in the fourteenth and fifteenth century work of the Eastern Counties, led to the inlaying of stone with flint in a way which is certainly not only most skilful, but also most effective. Such examples as the Erpingham and Palace Gates at Norwich are evidences, among many others, of an important development of design owing wholly to the use of a particular material.

Another development with flint was the arrangement of the wall face in a diaper, formed of regular squares of stone and flint. This is a mode of work not often seen in the Eastern Counties, but common in Hampshire, Dorsetshire and Wiltshire.

The old builders seem often to have doubted the stability of flint walls; and accordingly I have found that whereas the old mortar is by no means too good in stone countries, it is often most admirable in flint districts. I believe it was used hot, and that the flint-work so laid will last for ever. In the steeple of the ruined Church at Garboldisham, the parish authorities have tested the old work by trying to remove the tower in order to find materials for road-making. But when they had blasted away the whole of one angle near the ground they desisted in despair, and the tower, still standing unaffected by the removal of a fourth of its base, is pretty good evidence of one effect of building with flints, where the builders were determined to do their work honestly and soundly, and to use good mortar.

Again, I suppose you are all aware how much the use of brick has affected the art of design wherever it has been adopted. Nothing in the whole history of our art is more curious. And for this reason. The architecture upon which almost all northern art was originally founded, was, as I said just now, the work of stonemasons. But as new ground was covered by architects they came constantly to districts, abounding with good brick earth, but almost destitute of stone. And they found themselves, therefore, under the necessity of making the most they could of the only really available material. But the various schools of architects who had to deal with this problem, were far separated from each other, had no natural or easy means of communication, and do not appear to have known much, if anything, of the brickwork which was being done elsewhere.

The great fields for brick architecture were (i). The North of Italy; (ii). The North-East of Germany; (iii). The West of France; and (iv). Various parts of Spain. There were other districts, but these were the most important. The developments of each were different, but they all agreed in the discovery of certain properties in bricks. In the first place they all found that if brickwork is to be strong it must be built with an enormous quantity of mortar, and so instead of specifying as enlightened nineteenth century architects do, that "no mortar joint is to be more than a quarter of an inch thick," I think if we could find a mediæval specification we should find it run in this form, "no mortar joint to be less than half an inch thick." Then next they observed that bricks might be moulded, and that if the earth used were well tempered and fine, any delicate pattern might be re-produced in a hard material, which would almost defy weather. In subsequent times we have seen it become the fashion to ignore this vulgar view of the question, and to regard brick as a material which ought to be so soft as to be cut and rubbed easily. Moulded bricks of course made easy a plentiful use of a mould when once it had been made. And there was consequently a temptation to use a pattern over again as often as possible. The result of this was that in most brick districts we see moulded brick traceries used and repeated all over a building, not because they were very beautiful or because they were required, but because they existed and therefore had to be used. Look at the cornices of the Italian Churches, with their endless repetitions of the same form of tracery and you will see what I mean; whilst in North Germany the traceries all over the transepts of St. Katherine, at Brandenburg, shew precisely the same kind of result. Still more curious is it that in Italy, in France, and in Germany, the use of brick led to the erection of sham fronts in front of the roof gables, the main or only use of which was to shew off the variety of moulded bricks. You will see a close affinity in cause and principle between such fronts (to take typical examples from each country) as those of the Town Hall, at Lübeck, the gables of the churches in and near Toulouse, and the transepts of Cremona Cathedral, whilst, nevertheless, each is entirely independent of the other in style, and evidently their architects knew nothing of each other's work. And here I am reminded of the curious effect of this brickwork upon stonework in the same districts, as *e. g.* in Venice, where one cannot look at such traceries as those of the Madonna dell' Orto, consisting of groups of quatrefoils cut out to fit an arch, and not growing naturally as our own English traceries grow, without seeing that the necessary repetitions of brick traceries had probably suggested them. So again in North Germany we see at Brunswick, Halberstadt, and in that district generally, a remarkable type of west front, consisting of a raised gable between two towers, the sole object of which seems to have been the exhibition of magnificent traceries both to the east and the west, which looks almost as if it had been suggested by the common exhibition of magnificent brick traceries in the churches not far off, as *e. g.* in the transepts of St. Katherine, at Brandenburg, though no doubt the Romanesque examples of the same arrangement would rather militate against this theory. In the South of France, in Toulouse and its neighbourhood, the use of brickwork led to almost exactly the same kind of developments, as one may see in the front of St. Tour, Toulouse, or that of Ville Nouvelle and Ville-franche, not far off, but the details of the work in all these districts are different, and yet in each the style has been affected by the material, and is quite unlike what it would have been if stone had been available for use.

Again: what a complete change was effected in architectural design where wood only was available for buildings! In this country, there were certain districts in which oak was wonderfully plentiful in the Middle Ages. Such were parts of Hampshire, Worcestershire, Montgomeryshire, Cheshire and Lancashire. But in all parts of the country wooden buildings were very common, and at the present day there still remain, I believe, a vastly larger number of mediæval domestic buildings of this material than of stone.

The material here, as before, influenced the system of design most decidedly. The wooden building, framed together, not only admitted, but required for protection from wet, those projections of one story over the other, and of the roof finished with a barge-board over the uppermost, which make all old wooden constructions so picturesque and beautiful in their outline. It is worthy of notice also that where oak was very plentiful it led to important developments of design. Compare, for instance, the magnificent roofs of Worcestershire and Montgomeryshire with those of Essex or Kent. In the former enormous timbers were available, and so the great principals of the roofs were cut into bold arches and their spandrels pierced with foliated openings of varied design—whilst in the latter, where the timber seems to have been much smaller, the roofs are generally formed of tie beams and king posts, and with no large curved timbers whatever. An admirable example of one of these wooden churches came under my notice some time since at Hartley Wespall, near Basingstoke; and as it has lately undergone restoration at the hands of Mr. Gilbert Scott, junior, I hope that my reticence about it will be held to involve him in some day giving the Institute his notes upon its more interesting features. I will therefore only describe it so far as to say that it dated from the fourteenth century, and that the walls were formed of oak uprights grooved so as to hold securely a filling in of mud or cobwork, which thus formed a fairly weather-tight construction. The then Bishop of the diocese protested against any attempt, on my part, to reconstruct the chancel in the same material, " because it would not stand," yet here was a building five hundred years old still standing, and I doubt whether one out of fifty of the churches his Lordship has consecrated will last half the time.

I must not go more into detail on this part of the subject, but must hurry on to the next head under which I proposed to deal with it, viz., the influence exercized in certain districts by exceptionally gifted architects. This alone is a subject which might well occupy us for the whole evening. It is true that our first scientific writer upon English architecture—I mean, of course, that dear Rickman, to whom I owe an enthusiasm which he created in my boyhood, and which I hope never to lose—whose book is to the present day the best we have, did attempt indirectly to go into this subject by showing similarities between buildings of the same age. But since his time little has been attempted, and I shall to-night only say just enough to induce some of you, may be, to try to follow up the same sort of enquiry in districts with which you may happen to be familiar. Of course in the Middle Ages, just as now, there was great difference of style and great diversity of power in the works of various architects. Men were never all giants, and those wonderful freemasons of old had no more power of securing invariably good designs, than their humbler namesakes of the present day.

As a rule each man's work will be found in one district. Sometimes it is the cathedral which set an example to the diocese. Sometimes it is the hand of an architect brought specially for the work from a distance; but always, I am persuaded, a careful examination of various works will show, among many of them in each neighbourhood, such evidences of unity of design and similarity of system, especially in the accidents or tricks (so to speak) of design, as would enable us to classify them with the same sort of ease with which we are at this day able to detect the hand of all our better architects in their various works, or in the sister art of painting to detect the manner of some old painter in almost every picture that we see.

At the present day it is true that some architects manage to give us such strange and unaccountable differences of style in some of their works, that in their cases it would be a little difficult to generalize. But in the case of old architects there is, I think, less difficulty, for as far as I have been able to ascertain, it seems that then each architect was very much in the habit of repeating himself. One reason for this was, no doubt, that it was quite possible for him to be ignorant of other men's works, or other developments of art going on in his own neighbourhood, to a degree which is quite impossible now. We are now so much educated in what is being done everywhere else in the four quarters of the world, that our art has become thoroughly cosmopolitan, and so runs great risk of losing one of the greatest of the charms of all antient art—its individuality and local colouring. With so much only of preface to this part of the subject, let me now give you a few examples of groups of works done by the same artist. I shall take various cases and rather at random.

We will begin with Westminster Abbey, because it affords, as I believe, a very remarkable case of a Minster and a small parish church built by the same man. The parish church is that well-known example at Stone near Dartford. Here, as I think I proved in an account of Stone Church which is, I believe, in the library of the Institute, there are pretty conclusive evidences that the architect was the same as that of Westminster Abbey. The points of similarity are as follows:—(i). The arcades round the chancel of Stone and the chapels of Westminster are nearly identical both in the shape of their cusps, the character of their mouldings and sculpture, and the pecularities of their detail. (ii). The tracery in the triforium of the eastern part of the nave of Westminster, is almost identical with that of a window which I discovered in the north wall of Stone Church. (iii). The sculpture of foliage in both churches is curiously similar. The enormous dog-teeth enrichments in the north transept triforium are repeated in the chancel arch at Stone; the roses round the north transept doors are repeated in the north door of Stone, and the cross in a quatrefoil over a doorway in the eastern cloister at Westminster is repeated in some quatrefoils which I discovered in the east wall of the nave at Stone. Finally the materials used in the two buildings are similar. No doubt these similarities in themselves are very convincing; but what is still stronger evidence to my mind of a common author for both works, is that both, dissimilar as they are in first appearance, are planned on the same system of proportion founded on the equilateral triangle.

In the 'Ecclesiologist' for 1850, there is printed a paper of mine in which I tried, and I think with success, to prove that the churches of Merstham, Chipstead, Cliffe-at-Hoo, Brasted and Merton were all built by the same architect. The evidences of similar origin were generally small similarities of detail, and it is in these that you will usually detect the same man's hand of old just as at the present day. Another curious case is that of Bristol Cathedral and Yatton Church. Here the columns between the Bristol choir and its aisles are lofty, and carry very acutely pointed arches, whilst those of Yatton Tower are low and altogether different in proportion. Yet the detail of the fine mouldings which form the clustered shafts at Bristol, is exactly reproduced at Yatton, being wrought from the same moulds. The south transept window at Yatton is similar in style to some at Bristol, and this serves to make me think that we may fairly credit the architect rather than the mere stonemason with the similar details of the piers.

Another group of churches on the south coast may also be given to the same hand in the thirteenth century. Anyone who knows Chichester Cathedral well would, I think, be convinced if he were to visit the Church of St. Thomas, Portsmouth, that its choir was certainly the work of the same architect. And if he went from thence to Wymering, he would, I think, soon perceive that the delicate little columns which divide the nave from the south aisle there, are derived from the delicate columns at Portsmouth. Hayling and Warblington Churches, in the neighbourhood of Wymering, have some evidences of being the work of the same man. At the same period the magnificent Garrison Chapel at Portsmouth was built, but this is much more similar to the work of Bishop de Lucy, at Winchester, than to the other buildings.

Wantage and Bampton Churches have nave arcades which are as exactly similar in detail, shape, &c., as two works can well be. They seem to have been worked from the same moulds. Heckington and Navenby and Hawton are three Midland Churches, all of which are by the same hand, as the sedilia and Easter sepulchres clearly prove.

Three churches in Derbyshire and Staffordshire—Norbury, Blithfield, and Checkley—have chancels of the fourteenth century, which are singularly alike in character; they are all fine works, full of good detail and well preserved. Their windows also retain a great deal of very fine contemporary glass; that in Blithfield and Checkley is of the most delicate kind, whilst that at Norbury is coarse and inferior.

It follows, that if, as I suppose, the chancels were designed by the same man, he did not design the glass, for it is clear that the coarse detail of the windows at Norbury could not have been drawn by the man who drew the detail of that in the other churches, or executed in the same workshop. Probably some of this glass was done by some firm who (as they do now) supplied church decorations everywhere; we have curious evidence of the existence of such firms in the case of the decorations of the Norfolk screens; you know how frequent, though perhaps few of you know how exquisitely beautiful, they are. It turns out on examination that the figures on these screens are sometimes painted on *paper*, and then pasted on the panels, that the same patterns and figures are repeated on different screens, and that the same designs for figures of saints are in some cases found upon the screen in one place, and the stained glass window of another church. This is a valuable sort of evidence, because it serves to show that customs of trade, which we are apt to suppose to be modern, are in truth old enough for any one. And it accounts in some degree for the excessive similarity of the detail of many kinds of old decoration. Who, for instance, can examine the splendid screens in the neighbourhood of Taunton without perceiving that they were for the most part executed in the same shop under some one man—the Rattee of his day—whose skill had made him famous. So again, in the case of the carved ribs and purlines of the Cornish roofs, the similarity of workmanship and detail is so great that it looks very much as if the workmen who executed them were all taught by the same master; and in the case of inferior workmen there is, I believe, some evidence that the iron grille of Queen Eleanor's tomb at Westminster, the hinges on the door of Leighton Buzzard Church, and the hinges on a thirteenth-century door in St. George's Chapel at Windsor were all executed by a smith of Leighton.

The value of this examination of buildings erected by the same men or under similar influence was well illustrated in the restoration of Merton College Chapel. The chancel of Trumpington Church near Cambridge is evidently the work of the same man who built the Choir of Merton, and, if I remember right, there is some connection between the College and that parish which makes this supposition very *vraisemblable*. Therefore, when Mr. Butterfield had to restore the Chapel of the College he was perfectly right to go to Trumpington, where the original roof still remains intact, to learn what the proper form of roof would be; and what may strike many as the peculiar roof of Merton Chapel is in truth a mere copy of the roof of Trumpington, and, therefore, justified by authority.

The influence of particular artists upon the style of entire districts was sometimes no doubt very great. Few counties exhibit this better than those in the West of England. Examine the churches of Cornwall, for instance, and you will find this most remarkable fact—that in the fourteenth century all the churches were cruciform in plan, with western towers and spires, whilst in the fifteenth century they were equally invariably planned with three parallel aisles, and with western steeples *without* spires. It is very difficult to account for such a marked change, and I confess myself quite unable in this case to do so. But of the fact there is no doubt. There is perhaps some clue to the style of the fourteenth-century churches in the evident similarity of their details throughout, which seems to suggest that they were erected by the same man or body of men. Also the influence so often exerted by the erection of a grand cathedral may have had its weight here; Exeter Cathedral is the kind of building which must have created great interest at the time of its erection, and the style of its window traceries is somewhat similar to that of the windows in the Cornish churches of the same age. The characteristics of these churches are so remarkable that I may as well enumerate them. They are, as I have already said, cruciform, and except in the case of large churches—without aisles. They have no chancel arches, Their piscinæ are constantly in the east walls; the founders' tombs are in the end walls of the transepts, and the window traceries are almost always formed with the same leading lines. Finally, the architects at this period used good building stone for their work, wrought it well, and would have nothing to do with the hard intractable granite which was so plentiful everywhere around them. For some reason, in the fifteenth century all this was changed. The churches were universally planned in a different way—so much so that I doubt whether a single example can be adduced of a cruciform church in Cornwall in the fifteenth century; their material was always granite, not stone, and their workmanship was as rough and rude as in the preceding century it had been refined and delicate in character. The carpenters in these parts, it is true, at this period were skilful; their roofs were covered with rich conventional carvings of foliage, and their open seats and screens were as gorgeous as labour could render them. But, here again, as I said before, the similarity in all the details throughout the county is so great and exact as to lead naturally to the conclusion that one man or one body of men had an extraordinary influence on all the wood-work executed during the period. It is a subject, therefore, which suggests and justifies the most careful enquiry, because it seems just possible that here, owing to the geographical configuration of the county, we have a case in which it might be possible to prove the existince of a distinct order of Freemasons, by whom, in accordance with certain fixed rules, all the work in each period was executed, though at the same time it is clear that if Freemasons *were* employed they limited their travels to a very small district, and never carried their art out of their own county. The same thing may be seen to some extent in other parts of England. Take Norfolk, for instance, and you will find one example after another throughout the county of fourteenth century stone-work, in which a style of flowing tracery is adopted and brought to the greatest perfection, of which it would be hardly too much to say that examples are not to be seen out of that part of England. So again in the fifteenth century in this county there was an absolute passion for clerestories, crowded with windows—two to each bay—and roofed with hammer-beam roofs, whilst the aisles were also roofed with arched principal-trusses whose spandrels had delicate and varied open traceries. Here, too, spires were little esteemed, whilst in Northamptonshire and Lincolnshire he was wrongly thought (just as one would, no doubt, be nowadays) a very incompetent artist who did not erect one in every church! Go, again, into Sussex, and you will find in the thirteenth century an extremely beautiful and simple type of village church; it has the most delicate lancet windows, excellent though modest proportions, and that kind of singular delicacy in all its details which reminds one of the refinement and simplicity of such work as Simone Memmi's in the sister art of painting.

In truth it is hardly too much to say that every county in England had its own distinct variety of Gothic architecture. And these varieties, where they were not caused by the presence of a particular building material, were mainly due to the influence of particular architects in various ages. The genius of the architects of Lincoln Cathedral in the thirteenth and fourteenth centuries was directly reflected by the beautiful churches which studded the flats over which the minster so proudly looked from its hill of strength. The glories of York Minster and St. Mary's Abbey (now alas! all but destroyed), are equally reflected in a Fountains, a Rivaulx, a Whitby, a Kirkham, a Bridlington, and a Beverley—any one of them a treasure of which any kingdom might be proud, which here are found close to each other, and all of them designed in a style full of peculiarities of detail which prove their architects to have been local men, and not versed in the work of the same age in the South of England. Look again at the Somersetshire towers, and see how evidently they were the offspring of one mind; so again the much simpler Devonshire towers, with what Rickman calls their "Devonshire" pinnacles. In Warwickshire, in Staffordshire, in Derbyshire, in Cheshire, in Kent, in Wiltshire, in Oxfordshire (where Christ Church Cathedral set an example, followed at Witney, Bampton, Faringdon, Uffington, Wantage, and Lambourne) among others, the most distinct evidence of the influence of local artists on the buildings is conspicuous even to a superficial observer.

If we leave England we shall find the same evidence of work by the same hand generally in one district, but sometimes far apart, in all directions. You all know what influence France exercized in England in the person of the great architect of Canterbury Cathedral, William of Sens, or Italy on North Germany, in the copying of San Vitale, Ravenna at Aachen. In the same way, when the vast Cathedral of Santiago de Compostella was to be founded, its architect seems beyond a doubt to have derived his inspiration from the Church of S. Sernin, Toulouse. I have drawn the plans of these two churches side by side to show how very similar they are; but the strongest evidence of the same hand is seen in the fact that the sections of the two churches are not only absolutely alike in construction, but also designed upon the same system of proportion of height to width. And it is curious that between Toulouse and Santiago, with the breadth of Spain between them, there is no church founded on the same plan, all the other churches of the same period having, in place of a regular chevet with surrounding chapels, a system of parallel apses on the east of the church, such as you see in the other group of Spanish plans which I exhibit. In those at Lérida, Tarragona, Tudela, and other similar examples at Benavente, Salamanca, and throughout the North of Spain, the influence of a foreign hand is seen, but it is not the same hand which busied itself in the design of Santiago. And by way of parenthesis, let me call your attention to the exact similarity of the clustered piers in all these examples, a similarity which is carried out in all the other details.

At later periods it is equally certain that foreign architects imported their Northern art into this Southern climate, and Toledo, Leon, and Burgos Cathedrals are distinctly the works of foreigners brought from various parts of France for the purpose, and with no transitional works on the soil leading up to their perfect development. They were the works of foreigners undoubtedly, but of men who did not come from the same parts of France; and Toledo alone, I think, shows in its original design any evidence of the effect of the national art upon the architect: for here in some respects, and notably in the design of the triforium of the choir, it seems as if the popular architecture of Toledo—which was Moresque long after the Moors had ceased to rule—had slightly affected the French architect. Another evidence that these churches were the work of architects unfamiliar with the country may be seen in the failure to adapt their work to the climate. It is indeed strange to what an extent this mistake was perpetrated. Romanesque architects all over Europe built with window openings suitable to an Italian sky, but quite unsuitable to German, French, or English skies. Their mistake was corrected as time wore on by the development of native artists. But as soon as these in their turn left their own land to build churches abroad, they built just as they had been used to build at home, so that, *e. g.*, at Leon we see a cathedral which is window from one end to the other, as if the only object in a hot country was to let in as much sun as possible, and we see exactly the same mistake made by the German architect of Milan Cathedral. Gradually in Spain, as elsewhere, the influence of native artists—first among whom is Jayme Fabre of Mallorca—is seen in the design of the fifteenth and sixteenth century churches, where the windows are as small in proportion to their area as those of the old Romanesque buildings, and carefully adapted to the climate of the country.

It is a little difficult to find evidence of an intentional copying of one man's work by another, or of a distinct recognition on the part of employers of the advantage of such a course. But this is solely because we have so little documentary evidence of what happened in the Middle Ages. Depend upon it they were much more like our own times than we are prone to think. Take this story of the building of the cathedral tower at Valencia. Here we have it in evidence that by a deed made May 18th, 1414, before the Notary of the Chapter, it was settled that one Pedro Balaguer, who is termed "an able architect," shall receive 50 florins from the fabric fund of the new Campanile, "in payment of his expenses on the journey which he made to Lérida, Narbonne, and other cities, in order to see and examine their towers and campaniles, so as to imitate from them the most elegant and fit form for the Cathedral of Valencia."

The result of his journey was a design which, though it differs now considerably from that at Lérida—having been very long in building—is still founded upon it; and that his course was not an uncommon one may be judged by the fact that in this part of Spain the steeples of the fourteenth and fifteenth centuries are almost always octagonal, of the same type, and derived originally, I am inclined to think, from Romanesque examples, which in this part of Europe were generally polygonal.

The steeple builders of Valencia were not peculiar. If we turn to Caen we shall find a very remarkable example of the same kind of imitation by one architect after another, of an admirable early type. So far as I know, the earliest example of these beautiful spires is one of those at the west end of the Abbaye aux Hommes. Here the ingenuity of the spire builders was such that they crowned the two Romanesque steeples with two designs for spires, differing from each other in important particulars yet harmonizing admirably together, and each of them full of ingenuity in plan and design. These spires fructified amazingly. They were wedded to steeples whose belfry stages consisted of an arcade of four, the two central arches alone being pierced. Of all designs for spires they are among the most beautiful that I know, but they are purely local, their habitat being Caen and its neighbourhood, with off-shoots extending westward as far as the famous Notre Dame de Kreisker at St. Pol de Leon, and for aught I know farther. But the remarkable thing here is, how the thirteenth century architect influenced, not only the men of his own day but also those who followed him for three centuries.

And here let me notice the remarkable way in which a passion for building domical churches affected certain localities. Whatever the exact truth may be about the Venetian colony at Perigueux having introduced the dome into Perigord, there can be no doubt that from thence it ramified into all the surrounding district, without in the least degree affecting other provinces. Cross the Pyrennees and you will find in the three neighbouring churches of Salamanca, Zamora and Toro, examples of another attempt of the same kind of which I know no other examples, and which must all have owed their origin to the fancy of some one architect, for there is nothing leading up to or suggesting them in older works.

The ground plans of some buildings appear to me not unfrequently to shew evidences of the same hand in their design. Many of you know—all of you ought to know—the beautiful Liebfraukirche at Trier. Its plan is, in my judgment, one of the most beautiful ever devised; so simple, so well proportioned, and, in spite of its real simplicity, so intricate from some points of view. It is truly a *chef d'œuvre.* If you compare the plan of it which hangs on the wall with that of S. Ived at Braisne, I think you will agree with me that it was by no freak of fortune that the two churches were designed so exactly on the same lines. You will see that, if you draw a line through the centre of their transepts, the portion to the east of the line is alike in each. Either one was copied from the other, or they were both designed by the same man. If this last supposition is true, how interesting the fact becomes when we look at the different character given to the two buildings by the planning of their western portions—that in the Liebfraukirche completing a circle by the repetition of the eastern half, and that of Braisne taking the usual shape of the normal nave—whilst in the designs of the elevations there is little similarity, one church having a triforium, whilst in the other the clerestory is begun immediately over the arcade arches. In a church at Metz—my notes of which I have unfortunately lost or mislaid—we see, as nearly as may be, I believe, the same plan, with again a different treatment of the elevations. And even if these churches are not by the same hand they show at any rate, very well, how imitation of one man's work by another led to very interesting graftings of one scheme upon another. The district in which these churches occur seems to me one of special interest to us in pursuing the kind of study I am recommending. You know how our Northern Gothic developed from two streams of Romanesque and Byzantine art, the one following the course of the Rhine, the other travelling northwards by the valley of the Rhone, and by Aigues Mortes, Toulouse, Perigueux, and Poitiers. The former maintained its sway much longer than the latter, which soon passed through one phase after another of ever-vigorous life, culminating in the noble thirteenth-century art of the Ile de France. But after a time we see the German architects and those of the Ile de France gradually influencing each other, and a style arising from the contact of their different systems, which has a character entirely its own. The churches I have been just mentioning are one evidence of this. So are most of the churches of Lorraine and Champagne —notably the grandest of them, Laon Cathedral. If you compare the steeples of Laon with those of Bamberg Cathedral you will, I think, see the connection, and will agree with me that on both sides of the Rhine you have a joint influence—on the East, the French affecting the German, and on the West, the German in his turn affecting much of the Eastern part of what we now call France.

There is, however, no time to mention a tithe of the instances which crowd on one's memory as one thinks of the evidences of the same man's work, or its influence on another's, and if I am to say a word on any other part of my subject I must at once leave this part in your hands.

The third way in which changes came over national schools of art, which I named, was that which might be caused by the movements of trained bodies of men, such as (*a*) Freemasons, or (*b*) Religious Orders. I must confess that I don't much believe in the former. Of course some Freemason will tell me I am wrong: but the mischief of it is that the obligation of secresy is so religiously kept by all modern Freemasons, that for fear we should learn too much of their mysteries, they prudently seem never to make use of any of them in public, so that if our art gained anything by them in the thirteenth century, it seems to gain nothing from them now—a fact which is perhaps almost as much a matter of regret in their own interest as in ours! But that masons forming guilds or confraternities, ruled by trade rules, and then just as now very nomadic in their habits, would exercize a large influence on the art of entire districts, cannot be doubted. All the evidence which I have been adducing, and which old buildings exhibit to my eyes, is against the belief that masons travelled very far afield. Just as they do at the present day, old masons preferred working in stone to which they were used, and so they seldom, I believe, travelled beyond the limits to which their favourite stone was carried. But in the case of Religious Orders, I think we must all agree that there was at least great chance of their frequent connection with foreign houses, of their habits of travelling, and the like, in themselves leading to a great infusion of foreign art wherever they existed. But besides this, there is the much more important fact that some of the great orders had precise and exact rules as to the shape and relative position of most of the buildings which went to form the vast whole of a mediæval convent. The example of the first Cistercian House in Spain is much to the point. Here—at Veruela—we have a church and convent planted on the further side of the Pyrennees, and beyond all question showing both in the plan of its church with its beautiful chevet, as well as in what remains of the conventual buildings, an exact compliance with the rules as to building of the mother church of the order at Clairvaux. Nor could this be wondered at when we know that the first monks of Veruela were Frenchmen, and took with them, no doubt from Clairvaux, their master mason as well as all the other necessary officers.

May we not account for the very foreign character of such a design as that of the porch in front of Fountains Abbey, and the arrangement of the vaulting in its aisles in a somewhat similar manner? Fountains had a most intimate ecclesiastical connection with the South of France, and what more natural than that one of its abbots should have tried his hand at importing something like one of those southern cloisters of which every one can feel the charm?

Closely allied to this sort of influence is that which was caused by conquest or colonization of one country by another. As a rule, conquering people bring the arts with them, and perhaps Spain affords a solitary example of a race dominant after a fierce struggle, employing the defeated enemy in the arts in which he was proficient. Yet this was the case wherever the Moors continued to dwell after the Spaniards had regained dominion in their land.

In England there can be little doubt that we owe much of our art to the success of the Norman invasion, whilst Ireland and Scotland afford remarkable cases of purely foreign art introduced into portions of the country. In Ireland you find the most pure South English art in almost all the buildings erected within the English Pale. In Scotland you find churches of the finest design, such as Elgin, Arbroath, Holyrood, Dunblane, and many others, evidently built by English architects in the best and purest way. And in Spain, whilst the contest with the Moor was going on, people were too hot-blooded to have time for aught but war, and you see French Bishops going to fill Spanish Sees, and taking with them French architects to build cathedrals in their own French style.

The great convent at Assisi is a case of curiously mixed origin: I believe its architect was a German, but if so he was one of those who lived near France, and was much influenced by French work; so that its origin is doubly complex.

The church of St. Andrea at Vercelli is a case which has been often quoted. It is talked of as an English church built by one who had been ambassador for many years in England. In truth there is nothing whatever English in its character, but much that may be French; but at the same time local workmen or architects have largely modified the design of the exterior to suit Italian eyes. No doubt Cardinal Guala had learnt to admire Northern Gothic during his long sojourn in the North of Europe, and aimed at introducing a new style into his native country. And his work is interesting evidence of the eddies and back currents which led the stream of art back again often times to its source. In the first ages of mediæval art the whole progress was from South to North. But as the vigorous natives of the North mastered and developed the principles of the art, here and there the stream turned again, and so not only do we see German traceries in the little mountain churches on the southern slopes of the Alps, but we have also a Milan, a Genoa, a Vercelli, an Assisi, as well as the still more distant works executed by the Normans in Sicily, and the Aragonese in Naples, of which I cannot speak, save by hearsay.

In the case of such a church as St. Mark and some of the early palaces at Venice, one cannot doubt that the design and detail is almost entirely Eastern. But these early Eastern buildings at Venice largely affected the character of the later Gothic into which her architects developed; and then when the style was well fixed there, you see it transplanted to some places in the immediate neighbourhood, but never travelling very far, so that to the end it is a local variety, peculiar to a small district. In Vicenza alone does one see a whole city copying and building exactly after the Venetian fashion. There is literally no difference between the type of palace common in Vicenza and in Venice in the fourteenth or fifteenth centuries, and yet when you travel a few miles further you lose all evidence of the work of this particular school of architects. The development of the Venetian domestic architecture of the fourteenth and fifteenth centuries is certainly one of the most remarkable cases of the tendency of men to follow in the grooves they happen to find prepared for them. In the Fondaco dei Turchi, in the Ca Loredan and in other palaces of the same age, so far as we can judge from all the fragments which remain, there was a distinction of a clear kind made between the centre and sides of the façade. The whole front was otherwise unbroken and uniform; but at the sides the windows or arcades were differently spaced to such an extent that no one could fail to notice them. Gradually as the fashion obtained of putting traceried windows in place of arcades, all Venetian architects nevertheless followed the old tradition, and arranged them with exact regard to the old rule. Here, just as in church architecture, it was the ground plan which really created the design. It was a custom—as invariable as our British custom of having a back and front drawing-room, without which no matron is happy—to have in the centre of each

Venetian house on every floor a hall out of which all the rooms opened. This hall naturally had a grand window at its end to light its whole length, and then the rooms on either side were lighted by smaller and simpler windows. This arrangement, which is first seen in the Byzantine Palaces, and which, there can be little doubt, owed its introduction to the special taste of some one artist, was copied and even more decidedly marked for centuries, and affected even the designs of the Renaissance Palaces. It is a remarkable example of a local difference of style which never passed far from the land of its inventor.

It would be a most interesting subject of enquiry if we had time to make out exactly who were the artists to whom are owing the designs for buildings erected during the Crusades in the Holy Land. So far as I can judge, we have here a very strange illustration of imported art. I regret very much that in part want of special (*i.e.* personal) knowledge of Eastern buildings, and in part want of time, have prevented my going into this question as I hoped to have done. Here I will only say that there are certain peculiarities in the sculpture of capitals, in the detail of arch moulds, and in the general character of the design of these buildings, which show a very remarkable affinity to—I might almost say identity with—a certain class of European work which is to be seen nowhere out of the West of France and Spain.

The façade of the Church of the Holy Sepulchre is as absolutely Toulousian or Spanish as it can well be; the very arrangement of the two doors is peculiar; you see it in the transepts of S. Sernin, Toulouse, and of Santiago. The detail of the sculptured capitals is peculiar, and is repeated constantly in early work at Barcelona, as in the old doorways of the Cathedral, in San Pera, and in San Pablo. The same character is seen in the gateway of a Mosque at Nablous. The ruined Church at El Biréh (the spot where the B. Virgin is said to have discovered that our Lord had stayed behind her) shews an arrangement of three parallel apses at the east end with carved capitals of the same character, and all its detail exactly similar to that with which one meets in Languedoc. And it seems natural enough to assume, just as one may in the case of the English Pale in Ireland, that all this art was imported into the Holy Land from the west of Europe, where it become grafted on and affected the national architecture.

I will only mention, to show that I do not forget it, the French influence which is visible in all the later Scotch buildings. There are some nations to whom art has always seemed impossible. Let us assume—as perhaps we may—that nature has been too bountiful to Scotland to allow of her sons troubling themselves much about art. But whatever the reason, it is generally true that before the middle of the fourteenth century most of the Scotch buildings seem to have been constructed by Englishmen, whilst for the next two hundred years the fashion set in favour of a style founded certainly on the late French Gothic, even if not carried out by French architects.

There remains only one head on which I wish to detain you any longer now. This is the influence on style, which is caused by attempts to copy in one age what had been done in some previous time. Now there was not much antiquarianism in the middle ages, but there was just a little. Antiquarianism on a large scale was indulged in only by the Rhenish architects of the thirteenth century. They must have purposely shut their eyes for many years to what was going on in the Domaine Royale in the first half of the thirteenth century. They were proud of their old Rhenish churches, and would not, without a struggle, give up their main features. So in such a church as that noble one at Munster Maifeld, they deliberately retained many of the characteristics of a Romanesque church along with parts and details every here and there, which show an acquaintance with thirteenth-century Gothic.

In somewhat the same way architects in Spain were building completely Romanesque churches at the very same time that at Leon, Burgos and Toledo French architects, brought there for the purpose, were building magnificent churches under their very eyes of the purest and most advanced Gothic.

Then there are many cases in which we find an architect of one period trying to conform his work to that of an earlier building to which he has to add. At St. Elne on the Mediterranean, near Perpignan, there is a case in point. Here there is one of those cloisters so interesting and so noble to which throughout that part of the world one is used. It consists of arcades resting on coupled shafts, and the shafts, the piers, the capitals and the bases are all enriched with elaborate carving. At first sight, one supposes that one has found a purely Romanesque cloister, all of light marble, and copied, both in general design and in the strange irregularity of its ground plan, from the not very far distant cloister at Gerona; but upon inspection it is quite clear that whilst the west and south sides are of the twelfth century, the east and north sides are of late thirteenth or early fourteenth century work, copied in general outline and design from the earlier work, though natural foliage is freely introduced in place of conventional.

We all know the case of Westminster Abbey, where with what at first sight appears to be excellent judgment, the noble design of the earlier church was continued in the fifteenth century, with so much general similarity that uneducated eyes would not detect the difference. Worcester Cathedral affords another case of the same kind, for there evidently the architect of the nave tried to make his work harmonize entirely in its lines and general design with the thirteenth-century work of the choir. The results both at Westminster and Worcester are not encouraging; both of these attempts at copying are tame and uninteresting compared with what the unfettered work of their builders would no doubt have been; and they may well be compared with the design—almost inspired, one may deem it,—of the nave of Bridlington Priory, where the architect of one side of the nave built upon an entirely different scheme from that which he found existing on the other side, and where, nevertheless, both designs being really full of life and fire and poetry, the eye feels no pain at the extraordinary discrepancies of detail where all is beautiful.

But there is, perhaps, in England, no example of copying so well worth study as that grand old out-of-the-way Devonshire church of Ottery St. Mary. Here we have a church which, though it was built late in the fourteenth century, with transepts formed by its two steeples in imitation of the neighbouring cathedral at Exeter, was nevertheless designed with a clear desire to hark back to earlier examples, and to imitate many of the features of the thirteenth century. So we see nearly all the windows either lancets or combinations of lancets, and so well imitated as to give the impression, until their detail is examined, that they are really the work of thirteenth-century masons. Their detail, however, is so pronounced in all its features as to leave no doubt whatever as to the age of the work. And this leads to the observation which has been often made before, that our forefathers never knew how to copy exactly what they saw. Some men will tell you that because they knew not how to copy we ought not to do so either; and that every one giving reins to his imagination should design just what liketh him best, without reference to antiquity or precedent—in a word, that we should all take courage by the example of that wonderful Strand Music Hall. I venture to dispute any such suggestion most energetically. I see enough of other men's work, and know enough of other men's studies, to know that the most original and most admirable work is that of the men who have studied old buildings the most thoroughly. And I am amused to see every now and then attacks made upon our originality and honesty as architects, by men who tell us our works are mere compilations, whilst if you see any of the designs of those very men in what they are pleased to call the Gothic style, you will find that they are indeed simple leaves taken out of the vulgarest book of specimens, without the slightest power even of copying accurately the work before their eyes, and still less of assimilating or fusing together with any kind of harmony the various pages from which they get their designs. Depend upon it the more you study old art the less you want to copy it, and the only way to escape from the necessity of simply copying is to devote yourselves with enthusiasm to its accurate study.

With a few words of explanation of the drawings on the wall I shall finish what I have to say this evening.

I have drawn sections of some of the piers of the early Spanish churches to show you how exactly similar they are in their detail. They carry unmoulded arches, and have generally very richly carved capitals. The churches in which they occur are cruciform, with three or more apsidal chapels to the east of the transepts. Their design is probably borrowed from Italy by way of Languedoc, and so far north as Fontevrault we see a church which presents many points of similarity to them.

The plans of St. Sernin Toulouse, and Santiago are drawn to show how extremely similar their design is, even to some of the dimensions, such as, *e. g.* the width of the nave and the width of the bays. St. Sernin is built of brick and stone, and has two aisles on each side of the nave. Santiago has one aisle on each side only, and is wholly built of stone. In other respects their designs are almost identical. They have coupled doors to their transepts, and in the bays between the chapels of the chevet round-headed windows with small circular windows above them.

The plans of the Leibfraukirche at Trier and the Church of St. Ived at Braisne have already been referred to. Here again the dimensions as well as the plans are similar.

The group of Catalan churches has a special interest, and as I believe very few people ever read books on architecture, I may assume that they are fairly fresh, in spite of some description which I gave of them in my History of Gothic Architecture in Spain. They were the work of a school of men the most eminent of whom seems to have come from Palma in Mallorca. The object of the school was to build churches of vast span, usable by enormous crowds of worshippers. They were not without opposition in their own days, as you may see in the account of the discussions as to the building of the Cathedral at Gerona; and though on the French side of the Pyrenees we see the same sort of attempt made (first of all in the old cathedral at Toulouse—and one which no doubt suggested those much later buildings) it is to the Mallorcan or Catalan schools that these plans which I exhibit are due.

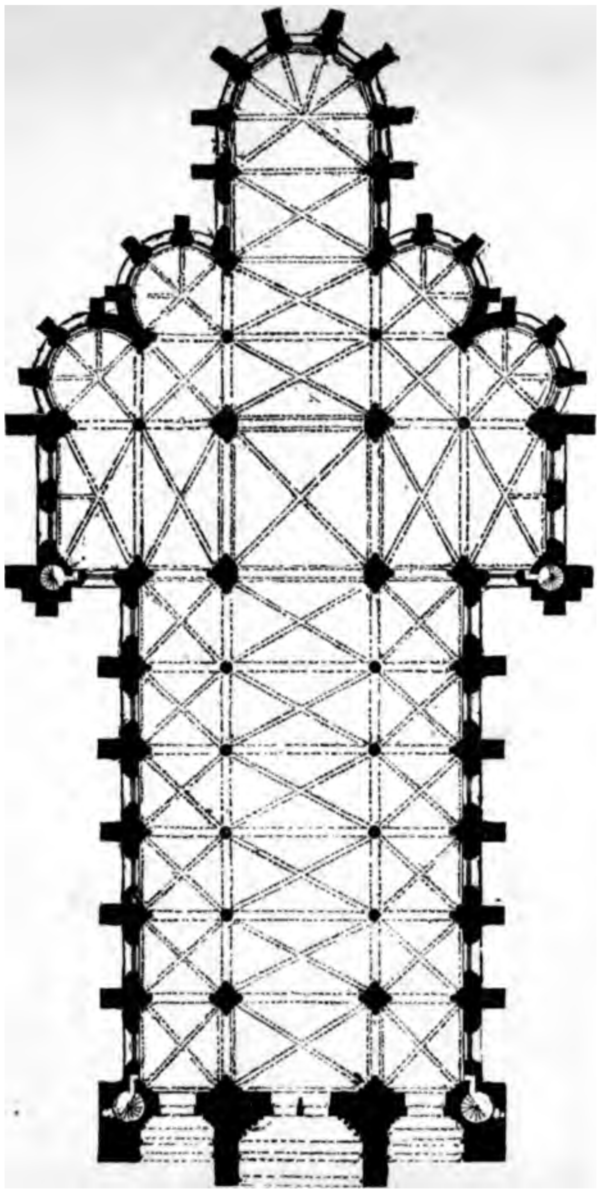
The sketches of the Caen steeples show how a design was formed, adopted and grew by degrees for two hundred years or more. The steeples of Bayeux and St. Etienne, Caen, are early transitional works, whilst St. Pierre and St. Jean, Caen, are both of late fourteenth or early fifteenth century date, and Norrey, Bretteville and Lisieux are works of the thirteenth century. They illustrate a system of copying which kept the main features but altered all the details of the work copied.

The sketches of brick fronts are meant to illustrate what I said about the tendency to sham fronts visible wherever brickwork was much used. The town hall at Munster is an example of a common type of stone façade, which I am inclined to think was derived from the brick façades of which those of the town hall of Lübeck are good examples. They are built simply as screens to hide the roof.

The two sheets of sketches of steeples which have been copied from my sketches in a great hurry are useful as showing how closely one design was adhered to in and about Barcelona. The earliest example here is the lantern of Lérida, which was itself no doubt founded upon the Romanesque octagonal steeples of which in this part of Europe the examples are frequent.

The drawings of the arches at Yatton and Bristol illustrate what I said as to the similarity of the mouldings and the great difference in the proportion of the arches in these two works. The drawings of the arcades at Stone and Westminster will, I think, convince the most sceptical that they were designed by the same man. The shape of the trefoil cusps, the general character and dimensions of the work, all confirm the impression, and the whole of the detail is equally good and marked by the

S-YVED-BRAISNE·



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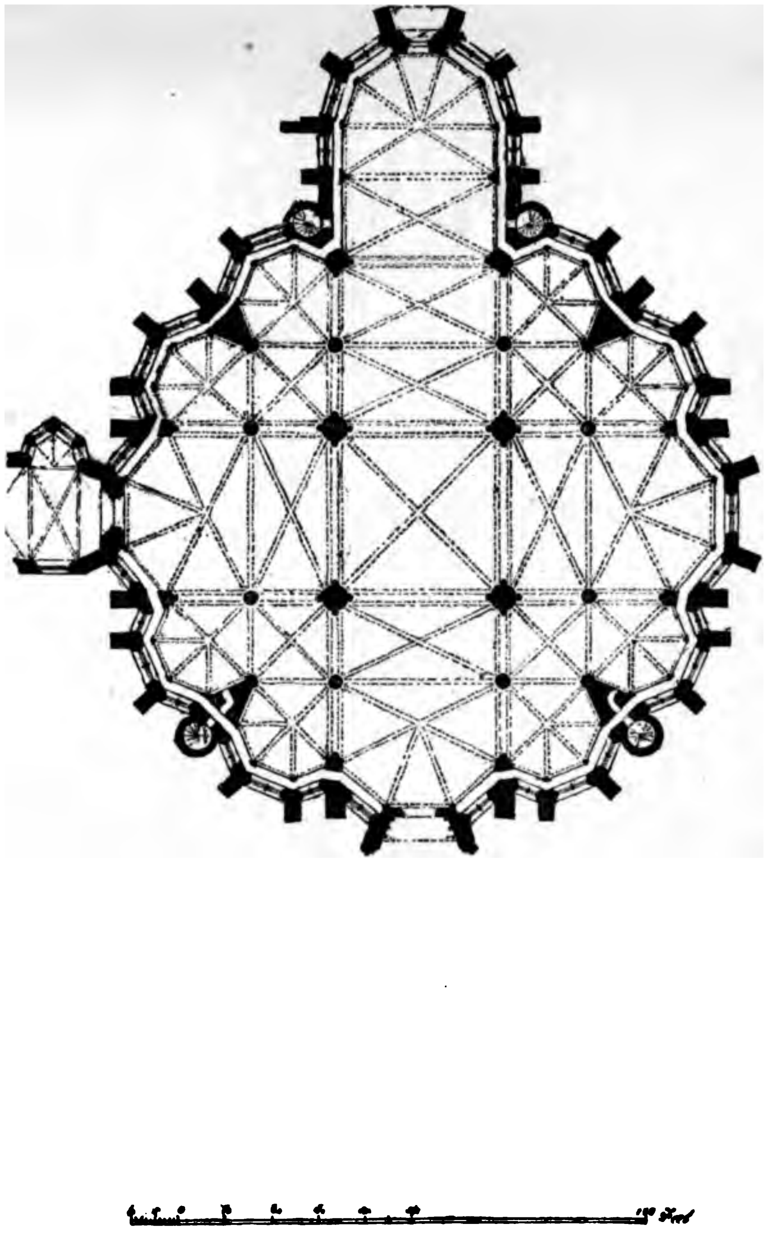

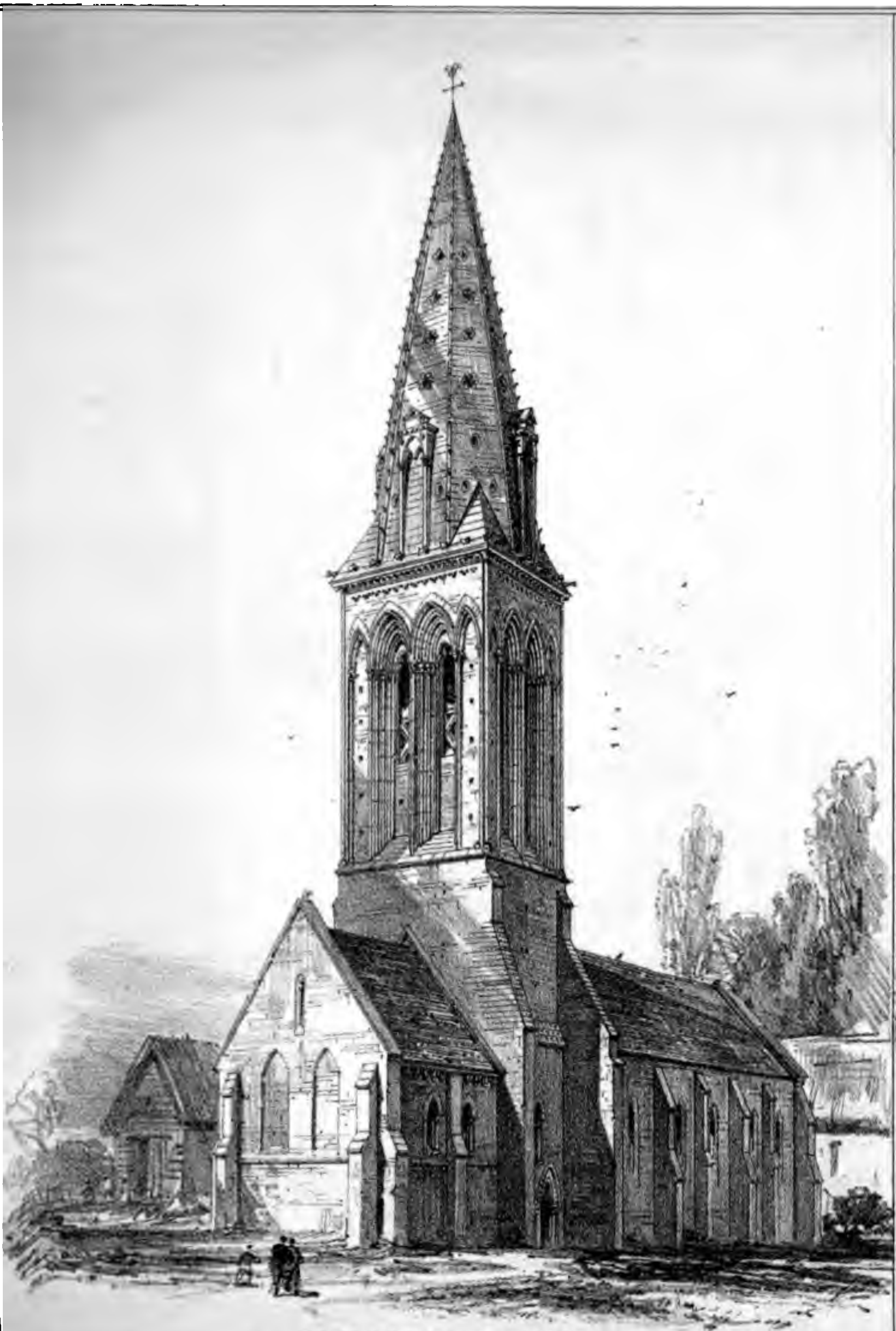

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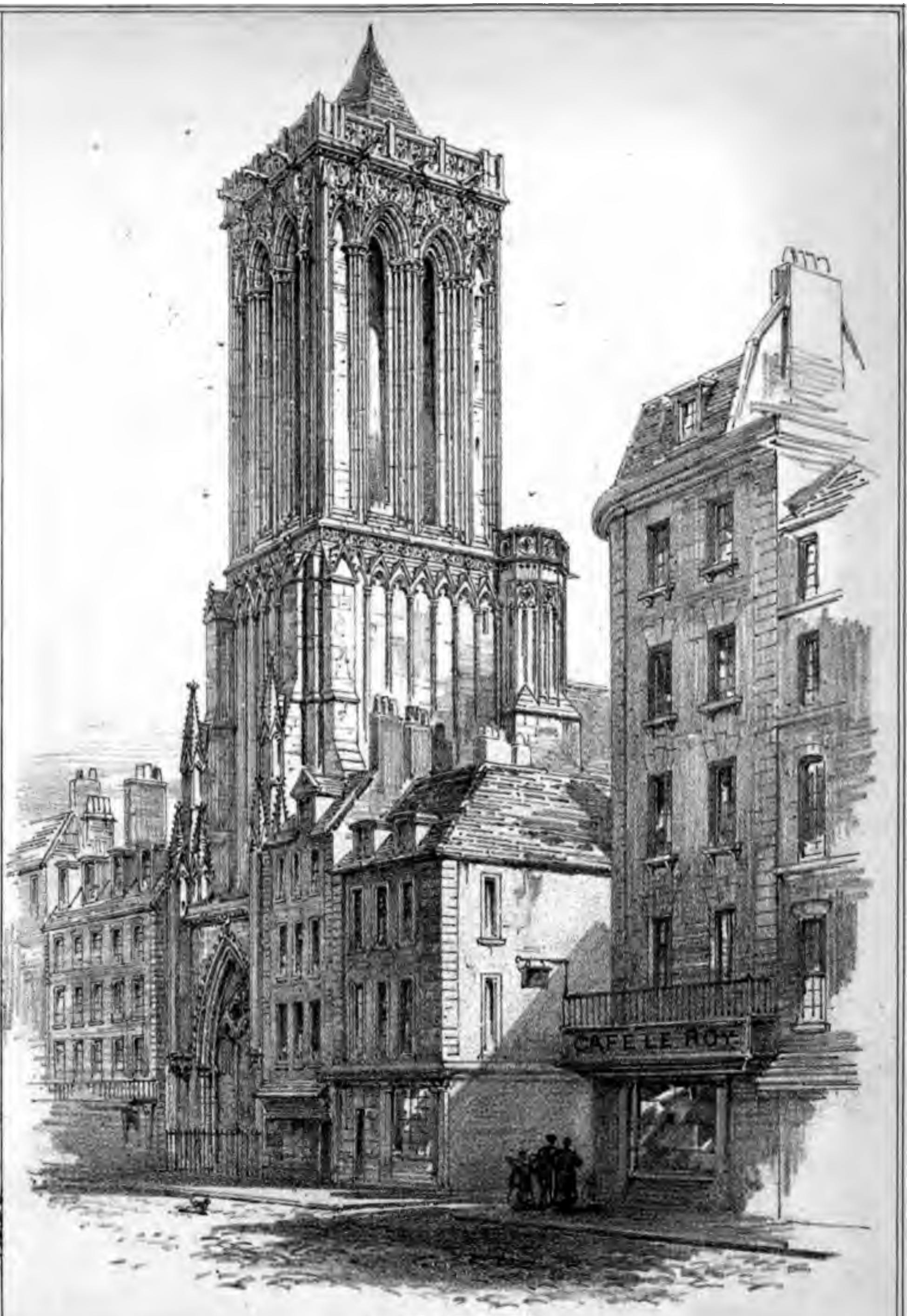


S. JEAN CAEN.

same peculiarities in both. I intended when I began this paper to have furnished other illustrations of a similar kind from other parts of the world; but time has entirely failed me in the completion of my intention, and I have to throw myself on your forbearance for the imperfect way in which I have completed what I proposed to myself to do. But the truth is, the subject is too large, and all I can pretend to have done is to have tried to give a direction to the studies of some of you which may add to our general stock of knowledge, to your own improvement in your art, and to a better sense of the pre-eminent claims which our national architecture has upon our love and esteem.

There is so endless a variety about its developments that I can conceive no other study which can exceed it in interest; and though I do not wish to advise any architect to busy himself over much with merely antiquarian speculations, I feel strongly that most of those who wish to make progress in their art must sacrifice a little, at any rate, to antiquarianism. They will discover by so doing not only much of interest but at the same time much of edification, and in spite of an unwise sneer of one of our weekly advisers, who said, the other day, that we had found it convenient to give up talking about true principles, they will most certainly find that the one feature which binds together all these apparently divergent varieties of Gothic building is that they are almost always planned in obedience to the then known best systems of construction, and that no architect can ever hope to create any differences of style in his own buildings worthy of admiration otherwise than by perfect obedience first of all to this first and foremost rule of all good architecture.

The PRESIDENT.—I hope that members will join in discussion on the interesting and ingenious paper of our friend, to whom we are very much indebted for bringing this subject so ably before us.

Mr. JOHN P. SEDDON, Hon. Sec.—Mr. Street's paper has been so interesting and full of detail that I merely rise to thank him for the great pleasure it has given me personally. It is almost useless, I think, to add any further examples to the numerous ones he mentioned, for it is evident he has proved his arguments by those he has adduced. Speaking of materials, when he referred to the Norwich screens, some other instances occurred to me which I have myself met with in the West of England, which curiously bear out Mr. Street's remarks. Thus I have found in one or two villages in Monmouthshire, where, in olden time, there could scarcely have been any roads at all, some magnificent screens—the principal beams only of the structure of which seem to have been wrought out of large baulks of local timber, while the ornamental portions, richly carved and perforated, were no doubt brought upon mules' backs from some such manufactories as those which Mr. Street speaks of. At Llangwm Ucha, near Usk, there is a most charming specimen of this kind—perhaps the richest screen I have seen, but somewhat imperfect. Another somewhat similar specimen, almost complete, is to be found at Patricio, near the Abbey of Llanthony. To pass from questions of mere detail, I think if we should get from Mr. Street's lecture the moral which I think it points out, the determination to be a little less anxious to make all our works differ every time, and to be a little less critical with regard to those in which some repetition is observable, it would be well. I think certainly that when an architect has got an idea that pleases him, the best thing he can do is, the next opportunity he has, to endeavour to carry it out to a further point of development, rather than to be continually making fresh experiments, which is too much the fashion in the present day.

Sir M. DIGBY WYATT, Fellow.—The subject chosen by Mr. Street is in itself so large, and so profoundly interesting, and has been treated in so masterly, and at the same time so suggestive a way, that illustrations bearing upon the matter crowd upon one's mind, memory, and fancy, to such an extent that one scarcely knows which to commence with. Probably the first thing that must have been made apparent to all by Mr. Street is the very decided evidence of the great talent, industry, enthusiasm, experience, and knowledge of his subject, which the paper develops; and I think before discussing any matters of principle or detail alluded to in it, we should not fail to record our gratitude to the author for his admirable essay by the hearty vote of thanks to him which I now take upon myself to propose. The leading moral of Mr. Street's paper, which I, at least, am delighted to recognize, appears to me to point to the larger measure than heretofore of *freedom* it accords to architects specially devoted to what its devotees regard as the pure practice of mediæval art. This, I am glad to observe, the leading Gothic architects of the day gradually concur in recommending to students. We are no longer told that it is absolutely necessary for a building, which affects to recur for its general forms to the style of structure prevalent in a particular country at a particular time, to be cast in conformity only with certain definite forms, accredited by archæologists as special to that special country at that special time. Thanks to such a concession, and with it, we may feel that there is room enough for the talent and fancy of the most imaginative architect to display themselves in full liberty, without overstepping what even a purist would regard as decorous; and with a happy result, provided that such talent and fancy may be exercised within the judicious limits which long, earnest, and careful study of the past alone can define. The obvious carollary to any such proposition is of course the indispensibility of an even increased regard for those monuments, whose leading features must, as long they may exist for our admiration, furnish the best and only sure basis of such study.

One of the most interesting questions treated of in the paper is the greater or less measure of identity of contemporaneous monuments in near or distant localities—the conditions under which resemblances obtain—and how far the existence of a great measure of identity in any such monuments may lead to a just inference that they may have been the work of the same individual either as architect or builder. Any investigation of such questions leads us naturally to a consideration of the nature of communications between countries, individuals, provinces, and ecclesiastical, industrial, and municipal communities, in the middle ages. We know that the difficulties of locomotion were very great, and that such poor means as then existed for the transmission and intercommunication of ideas were constantly more or less suspended or interrupted by the exigencies of war, and other innumerable accidental causes. Yet that there existed a sort of electric current, which ran during the middle ages, through the minds of all, practising art over the whole continent of Europe, we cannot fail to discern and admit. Thus, in architecture, the moment a real important structural change took place in one country, its echo seemed to make itself audible in some other in an incredibly short space of time. In a similar way from province to province and almost from village to village the movement seemed to be propagated.

In the art of painting, the illuminated manuscripts throughout Europe show that the moment a great change of style took place in one country, the leading type of modification was almost immediately reproduced in another, of course with a success or failure dependent upon the special state of technical ability prevalent. Such recurrences, whether in architecture, painting, or sculpture, are interesting, inasmuch as they point, not to few minds working to some common end, at moments we have been accustomed to regard as void and dark, but to a great many. More minds were thirsting for developement, and far more artists existed I believe at such periods than their scanty records enumerate. Hence I am inclined to think that in many cases where buildings of great similarity are even yet found well preserved at no great distance from one another, there may have existed not one man only, but half a dozen different men, qualified by knowledge, and able by conditions of proximity, to have worked upon those several buildings.

Having made, whenever opportunities presented themselves, a very careful examination of ancient drawings of mediæval buildings, I do not believe there could have been in any country, a limited number of persons who had, or kept open, offices or workshops, in which they produced or multiplied designs. I believe from many documents connected with ancient architecture that the architect to a great extent resided upon the spot, where he conducted the works for which he acted as architect. That he was, in the case of monastic buildings, generally attached, either as a clerical or layman, to the order for which he worked; and that would lead to a considerable identity between the monuments of that order in different places. There seems scarcely any doubt that such "magistri operum," architects, foremen, or master masons communicated whenever they could with each other, and with the heads of their order or craft, and in that way they would work in harmony one with the other, within reasonable limits of space. No ancient drawings I have ever seen have appeared to me sufficiently full, detailed, and clear, to admit of their being worked from by the mason, unless the man who drew the design was resident upon the spot, to amplify and further define his ideas, to make the moulds, and set out the work. A careful examination of adjacent and outlying monuments, particularly of transitional styles, and a comparison of their recorded dates of construction, will often, I think, prove that so many buildings exhibiting identities of transitional styles, lasting for very short periods only, were being carried on simultaneously over a considerable tract of country, that it must have been impossible for any very limited number of architects—provided each one was obliged to remain on the spot, during even the chief part of the time consumed in the erection of the monument upon which he was occupied—to have sufficed to create any considerable number of them. The different edifices we meet with in large districts, exhibiting the marked repetitions of leading elements of design, Mr. Street has so ably and skilfully traced out, are a proof of the short space of time within which they must have been erected. Each monument occupied then what we should now regard as a long time for its construction; while in a very short time only we observe the production of a great multiplicity of monuments of a similar kind.

With these few remarks I will conclude, by calling upon you, gentlemen, to accord a sincere, and unanimous vote of thanks to Mr. Street; though if time permitted, and if it would not be egotistical, one might go on for an hour, enlarging, as I hope some of you may do, upon the numberless points of interest his admirable discourse has opened up.

The PRESIDENT.—I was about to say that I am quite sure all who have listened to Mr. Street's paper will join in the vote of thanks that has been proposed by my friend Sir Digby Wyatt. No doubt the incidents and suggestions which this curious paper has brought to bear upon this very important question deserve very careful consideration, and I dare say many gentlemen are ready to speak, the ice being now broken. Unluckily, I am obliged to leave, for reasons which I need not explain; but before I go I wish to put, I do so very sincerely, the vote of thanks to Mr. Street for the completeness of his communication, and for the great labour and pains and learning which he has bestowed upon it. It is highly creditable to us as architects to have such a man amongst us, and I hope he will one day reap the honour he deserves.

The vote of thanks having been passed by acclamation, Mr. J. Clarke, V.P. took the chair vacated by the President.

Mr. C. F. HAYWARD, Fellow.—Without entering into the many questions so ably dealt with by Mr. Street, I would venture to ask if in looking over his paper it would not be desirable to modify one expression, not indeed in every instance where it occurs, but particularly with reference to the series of spires at Caen and elsewhere, shown in the sketches and referred to in the paper as being *copies* one of the other. I have always regarded them myself as *developments* of an idea rather than copies of one invention. There is to my mind decided originality and mark of growth in every one of these examples, at the same time that there is a direct study of the previous ones. Each seems naturally to rise out of the other, presenting some new feature, though at the same time distinctly referable to the original model. In passing, I would note that Mr. Parker, in his paper read at this Institute some time ago, treated very fully of the Norman architecture of Caen (January, 1863, Mr. Street himself being in the chair), and suggested some one taking up its history during the Gothic period. This interesting subject has now been touched upon in the paper we have listened to with so much pleasure.

Architects are alternately accused by those who only understand the subject superficially—on the one hand, of copyism and want of originality, then, on the other, of want of sufficient reverence for old styles, and are called upon to produce chapter and verse for all they do, and compelled to refer every part of their work to some precedent or example executed at a definite date. Amongst ourselves the use of the word "copy" by Mr. Street may be understood, but not by others, and therefore I venture to suggest a modification in this instance.

Mr. STREET.—I do not, myself, consider that the towers at Caen, to which Mr. Hayward refers, show such a difference, one from the other, as to entitle the later examples to be called original—they are all copies, with little alterations in the details. The details of the mouldings and traceries are different, but otherwise they are very similar. Their main feature is the arcade of four arches in the belfry stage, the two outer arches sunk to a slight depth, and the others pierced with windows. I think when we see that old architects went on building, for some three hundred years, churches so much alike, and all of which we are not ashamed of admiring now, it is not such a disgraceful thing for a modern architect, now and then, to copy a good thing; at any rate, it is far better than multiplying such fearfully original buildings as, for instance, the Strand Music Hall.

Mr. C. FOWLER, Fellow.—It struck me forcibly while listening to this able, voluminous and carefully-prepared paper, from a gentleman who, as we all know, is very largely engaged in professional work, that it affords an example which might be advantageously followed in this room. Had we a few more of the leading members of the profession, who we know are also largely engaged, who would occasionally kindly devote as much time as Mr. Street had done in the preparation of a paper, it would add very much to the interest of these meetings. It is only a few times in a session that we have as interesting a meeting as this; and we must feel it is partly due to the circumstance that those men who are in a position both from their studies and their practice—for practice after all is the important element—to give to the greater portion of the members such interesting papers as we have had to-night, only rarely do so.

Mr. E. I'ANSON, Fellow.—I think we may fairly congratulate ourselves upon the remarkably philosophical spirit of Mr. Street's paper. I venture to say there is hardly any assembly in Europe where a gentleman of our profession is so well qualified by extensive travel, study, and practice, to have given us such a paper as this. I congratulate the meeting also upon the extremely liberal tone of the paper. It is not a paper, as I think, advocating any particular style of art, but advocating general principles. Instead of limiting our ideas to particular styles, he shows us how general principles may be applied to varieties of styles; and if these are varied throughout Europe, we may vary them in our own practice. We must all admire the knowledge, the learning, and the philosophical character of the paper, and especially the liberal tone in which the subject has been treated throughout. I feel with Sir Digby Wyatt that the subject is almost endless. It is very suggestive and might be made the matter of almost interminable remark.

Professor DONALDSON, Hon. Sec. For. Cor., said—I should be sorry for this subject to pass over without some further observations being made upon it. I had hoped that those who are well acquainted with mediæval art would have carried out the admirable allusions made by our excellent friend on that great subject. There is a chapter in Mr. Fergusson's work on modern architecture, called "The Ethnography of Architecture," in which he shows that much of the principles of art and the peculiar styles of art are due to the races of men with whom they originated. Our friend has followed this to a degree by examining the same subject, and has shown how much effect the influence of race has had upon the architecture, which we find in different parts of Europe. The French, the German, and the Spanish, and again, the Norman and Byzantine in other parts of Europe. There is the influence of race upon certain productions, which has realised those magnificent buildings, that we find scattered throughout Europe, all having the same impress because they have originated in the same master spirit. I think our friend made a little mistake in applying to one master mind the influence carried out throughout all these productions. There is no doubt there must be an origin of all styles, and there can be no doubt this has been due to construction; the change from Norman to pointed arch was a question of construction; then ornament followed, as the taste of the architect wished to give beauty to those forms. I therefore think we owe it, not merely to the individual who originated the style, but rather to the general enthusiasm of taste of the same general spirit, which infused itself into other minds, and induced them to carry out with like success what had been already invented by one man. Because we must be aware the number of churches, erected in this country in every change of style during the time of pointed architecture shows, that it is impossible for one mind alone to have been employed upon them all; but that there must have been many minds imbued with that taste which prevailed in different buildings of the like sentiment of feeling. Our friend has paid a great tribute to the memory of Rickman—a man whom I knew, for whom I had a great regard: he was straightforward, honest, and had clear preceptions; but I think he owed much, and more than is recognised, to Carter. Carter was the first man who appreciated the differences of the mediæval styles in this country. Our friend also says he thought the architects were inspired in the noble buildings they produced, by the stone upon which they worked. It is not a necessity that bad stone should produce bad architecture. Coventry, Chester, and Oxford all show fine architecture in bad stone. I think very much of architecture and decoration depends upon a favourable material for working; yet I have found the hardest material worked with great elaborateness. In Devonshire and Cornwall I have heard of highly enriched screens in granite.

Mr. STREET.—Have you seen a case of such a screen executed in granite?

The CHAIRMAN.—I have always understood those delicate screens are of wood.

Professor DONALDSON.—I believe there are some specimens in granite, and painted afterwards. The same influences of races to which I have already alluded, obtain, I think also, not merely in Gothic architecture, but in the ancient periods. We find the *differences* in architecture in Ionia and Attica only to be accounted for, but as having been inspired by master minds of different races; and these are not merely copied, but imitated with modifications which are of the greatest benefit to us. I should have been glad if our excellent friend had brought before us a solution of the knotty question of those mediæval palatial façades of Venice, which are of curious style, and their origin so difficult to solve. I would observe that the interior of St. Alban's Abbey exhibits examples of the progress of the most beautiful transitions of style. We find one man working after another, each having his own impress, and giving to the interior a marked variety and beautiful modification of styles, as they follow one after the other. We need more time adequately to treat of this critical lecture, but I offer these few observations out of respect to our friend for the vast amount of time he has bestowed, and the rare genius he has evinced in the preparation of this address.

Mr. STREET.—There is one observation which I would make on what Professor Donaldson has just said. I do not think I was quite understood. I have no doubt the men who worked at the buildings at Coventry and Chester, and who erected the churches in Oxford, thought they were using stone that would last. I confess I cannot say as much for the materials used in this city, which we know very well, will not last. The Coventry architects built with a real intention of doing good work: the London house builders, at the present day, have no such intention,

Mr. J. FORD.—I take the opportunity of calling attention to one remark that fell from Mr. Street. He referred to the use of hot lime in the construction of flint walls. I may say that is the practice at the present time, and that is the only case, I believe, in which hot lime is used for building purposes. It is very much the practice in Norfolk; but in all cases where flint is used, owing to the cold nature of the stone, hot lime is employed to cement the material.

The meeting then adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 13th of December, 1869, J. CLARKE, F.S.A., Vice-President, in the Chair, the following paper was read:—

ON PUBLIC MORTUARIES FOR LARGE TOWNS.

By WILLIAM HARDWICKE, M.D., Medical Officer of Health, Paddington, and Deputy Coroner of Central Middlesex.

PUBLIC attention has of late been prominently directed to numerous sanitary improvements, that would benefit the poor in our larger towns. Amongst these the removal of evils arising from overcrowding is a subject which urgently demands consideration. Any suggestions that would satisfactorily meet some of the difficulty we should all desire to see accomplished, will I trust be acceptable.

Overcrowding, with many families, unhappily necessitates the retaining of the dead amongst the living, not simply in the same house, but in the same room, and that too in cases where death has resulted from a contagious and dangerous disease. Statistical returns show that a large proportion of the working classes live with their families in but one room, and it becomes an important consideration for the legislature, whether houses let out to more than one family ought not to be brought under the sanitary supervision of the Medical Officers of Public Health and inspectors of nuisances with a view to the prevention, as far as may be, of anything likely to aggravate the danger of overcrowding which now prevails to such an alarming extent in most large cities.

It has been the practice to consider that the parochial dead-houses were the proper receptacles for bodies during the short interval previous to interment, and that by such means crowded lodging houses and rooms occupied by large families would be relieved of the presence of the dead in cases, where they might be considered dangerous to the living.

But those who know the wretched accommodation afforded at these parochial dead houses, do not expect much improvement from the transfer of bodies to them, for being connected with parochial management, such buildings are not, and never wiil be, extensively used by a large portion of the community, who, though poor, have a repugnance to parochial dependence. Hence the conclusion, now very generally acknowledged, that a better kind of accommodation is much needed, in fact, that a public mortuary ought to be one of the institutions in every town and district of the kingdom, open to all without distinction, and as free as possible from all degrading associations.

Under these circumstances, which have given rise to the necessity of a proper place for the reception of dead bodies in various conditions of life, it will not, I think, require special instances in argument to prove to an association of enlightened men the desirability of isolating the dead, in cases of infection, from the living inmates of a house: nor will it, I apprehend, be necessary to enter into details as to the regulations in vogue in other countries.

The inconvenience of the present system has been of late fully acknowledged by the coroners, by the medical profession, as well as by the medical officers of health, and it has been strongly impressed upon the minds of our legislators. Even in country villages the want of a better kind of public accommodation is felt especially in cases of suicide, sudden deaths, or deaths from violence, accidental drowning, or otherwise, where the corpse is often taken to the nearest public house, much to the annoyance of the proprietor, or persons who are called upon unexpectedly to receive it. It is to be remembered, that no law can compel any one to receive a dead body into his house, and hence it frequently happens that bodies found dead are taken in charge of by the coroner's constable, and have to be deposited in stables, outhouses and sheds, to await the inspection and inquest of a coroner and jury. In our metropolitan parishes and in large towns or boroughs in the country, parochial dead-houses are undoubtedly provided, and there is one in connection with most hospitals in town and country; but they are far from meeting the growing wants of the community, and their management presents a revolting spectacle to those, who have, unfortunately, to visit them. Indeed it is generally supposed that it is only the most destitute paupers or the friendless outcasts of society who find their way to this almost final resting place.

Scarcely any of the metropolitan dead-houses are creditable to the authorities. Those of St. Giles and Holborn at the present time, St. Pancras, St. Marylebone and Paddington were until very recently, disgusting and scarcely fit to enter: the situation is most improper: there is a want of order and propriety in their management, and the persons employed to look after them, being paupers, are not the class who ought to have such responsibility resting upon them.

Those who prepared the Sanitary Act of 1866, had two special clauses, viz., 27 & 28 Vic., inserted in relation to the duty of imposing upon local authorities the providing of proper accommodation other than those dead-houses, that, in many instances are in workhouses for the reception of the dead.

> Clause 27:—" Any nuisance authority may provide a proper place for the reception of dead bodies, and where " any such has been provided and any dead body of one who has died of any infectious disease is retained " in a room in which persons live or sleep, or any dead body which is in such a state as to endanger the " health of the inmates of the same house or room is retained in such house or room, any justice may, on " a certificate signed by a legally qualified medical practitioner, order the body to be removed to such " proper place of reception at the cost of the nuisance authority, and direct the same to be buried within " a time to be limited in such order; and unless the friends or relations of the deceased undertake to " bury the body within the time so limited, and do bury the same, it shall be the duty of the relieving " officer to bury such body at the expense of the poor rate, but any expense so incurred may be recovered " by the relieving officer in a summary manner from any person legally liable to pay the expense of such " burial."
>
> Clause 28:—" Any nuisance authority may provide a proper place (otherwise than at a workhouse or at a " mortuary house as lastly hereinbefore provided for) for the reception of dead bodies for, and during, the " time required to conduct any *post mortem* examination ordered by the coroner of the district, or other " constituted authority, and may make such regulations as they may deem fit for the maintenance, support, " and management of such place; and where any such place has been provided any coroner, or other " constituted authority, may order the removal of the body for carrying out such *post mortem* examination " and the re-removal of such body, such costs of removal and re-removal to be paid in the same manner and " out of the same fund as the cost and fees for *post mortem* examinations when ordered by the coroner."

These clauses, like so many others in our sanitary laws, are permissive and not compulsory; therefore most frequently not attended to.

The following cases illustrate of the truth of my observations:—

1. Instances frequently occur of a body being found, when no one is willing to receive it, and no suitable place has been provided for its reception.

2. Cases, where a family live in one room and the death is from typhus, scarlet fever, &c., some member taking the disease and spreading contagion. These ought to be removed.

3. Instances of decomposition take place from delay, and being thus prejudicial to the health of the inmates of a house, demand instant removal to a mortuary.

4. Cases where objection is raised to the removal to a common dead-house on the part of the survivors, but in which a public mortuary would not be objected to.

5. Instances of the necessity of compulsory removal are often called for where voluntary action cannot be depended upon.

6. *Post mortem* examinations should not be permitted in private houses, especially where more than one family resides. A public mortuary is the proper place.

In many cases one has to pass to the dead-house through a row of helpless, semi-idiotic, inmates, who take their "airing" in the immediate neighbourhood of a place whose noisome effluvium assails the nostrils at a considerable distance off. As deputy coroner for one of the largest districts in Middlesex, I have frequent opportunities of witnessing how ill-adapted are the parochial dead-houses for the reception of the bodies of persons, whose position in life among the ratepaying class, ought to have entitled them to be treated with respect.

But even in the cases of indigent persons a proper place ought to be provided, so that the feelings of their surviving friends need not be shocked at the unsuitability and offensiveness of the dead-house to which any of their relations may have to be removed.

In the "Marylebone Mercury" of August 1st, a case is reported of an inquest held at the Marylebone Workhouse, in which the coroner's officer complained that the father of the deceased child had done his utmost to prevent the body being removed to the parish dead-house attached to the workhouse. His explanation was, that he belonged to a burial society, which allowed him £2. towards the expenses of the funeral, and that if once the body were removed to the workhouse premises he would have the greatest difficulty in convincing the members of the society, that it was not a pauper funeral, and they would have great hesitation in paying him the contribution.

He was, he said, a labouring man, but for all that he did not want the burial of his child to be at all connected with any proceedings at the workhouse. Being asked whether he would have any objection to have the body sent to a building not at all connected with the workhouse, and where rich and poor would send their deceased relatives, he at once said frankly that he would not have the slightest objection in that case. This is one example showing the prejudice prevailing with regard to the existing dead-houses, which would be entirely removed by the adoption of the plan now advocated, that public mortuaries should be dissociated from workhouses. But this prejudice has still further ramifications. The office of the Burial Board of St. Pancras is situated, though not in the workhouse, yet on the workhouse premises. The clerk recently expressed publicly his conviction that slight connection between his department and the one for poor relief acted so disadvantageously in the minds of the parishioners, that they did not patronize the Burial Board to the extent he believed they would do if his office were removed elsewhere.

Besides the numerous examples that might be cited showing urgent reasons for the erection of suitable mortuaries for the dead, whose friends would voluntarily avail themselves of such buildings, it frequently happens that in the interests of public justice *post mortem* examinations must be made, but there is no proper convenience at hand in private houses to carry on such operations in an efficient and decorous manner, so as to avoid wounding the susceptible feelings of the living. Some bodies are in a kitchen, top attics, &c., places that are too confined, where there is an absence of light and air, warm water, and cleanliness. In these cases the coroner has power, by the 28th section of the act just quoted, to remove the body to a dead-house for examination, and in an inquest which I recently held, the parents had to leave the house with their two children to sleep elsewhere, leaving the body in a small habitation where three other families resided.

We now arrive at this point—what should be the essential features of a public mortuary, and what the kind of building best adapted for it.

In any plan that may be proposed, two distinct apartments must be provided.

First. The place for the reception of bodies *uncoffined* and brought in, when found dead by the police, or by the coroner's officer or constable, or by the relieving officer; bodies having to await identification, or a coroner's inquest; here also would have to be deposited bodies removed by order of the coroner, or of a medical man for the purpose of *post mortem* examinations; or of persons having died from a dangerous contagious malady, and rendering immediate removal necessary. This would be the dead-house proper. It ought to have fittings for *post mortem* examinations, plenty of light from above, good ventilation, a supply of water, and of deodorising and disinfecting agents, a marble or slate slab with sloping inclination towards the middle, and a fall for drainage into a pail or a trapped sink. On two sides of the room marble slabs, two feet wide at least, ought to be placed for bodies to lie on. Here bodies may have to await the undertaker to place them in shells or coffins, and afterwards to remove them to the mortuary. Spare shells or coffins should be at hand on a shelf for any sudden emergency.

Second. The mortuary proper should be a large building capable of receiving ten or twelve bodies in shells or coffins, to be placed on trestles or on a centre slab (to be regulated by the requirements of the town where situated,) here to await interment. In Clerkenwell, iron moveable brackets are used for coffins to be placed upon, and when not in use they fall back. Catacombs, or cells in slate or brickwork may be proposed, if desirable, and the body might be closed and locked up until removal. The relatives would come here to inspect the coffins, and the funeral might start from the place.

This building must have some pretensions to ecclesiastical and ornamental architecture both externally and internally, and any attempt to associate it with the idea of its management being concerned with the parish or with poor relief, ought to be most strenuously avoided. I am not aware that any plans have as yet been offered on approval better than those furnished to illustrate my remarks.

This most important point connected with public mortuaries must not be forgotten, viz.: the removal of the idea that the institution is a parish dead-house; otherwise respectable persons will not be persuaded to allow their deceased relatives to be removed to it. When that is accomplished, and persons have a conviction that an air of sanctity and security is maintained, the first difficulty in overcoming any prejudices against public mortuaries will be removed.

The object will be gained by attention to two things:—

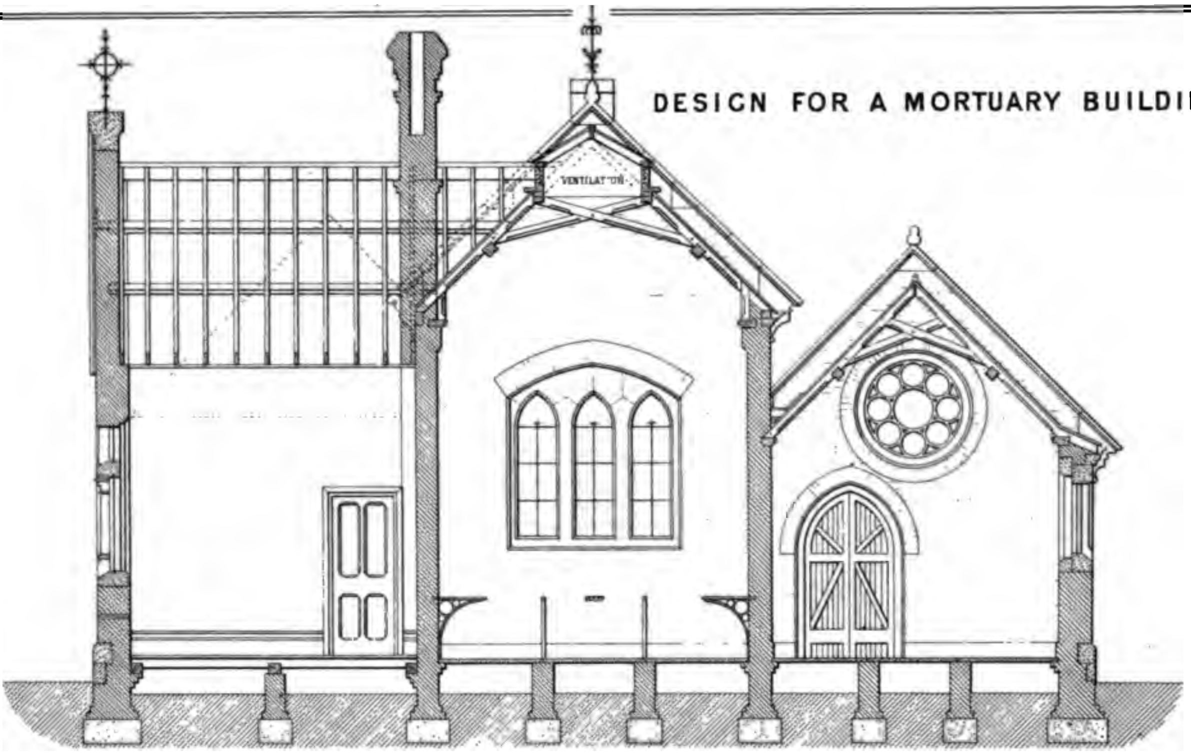
First. The efficient management by a competent sexton.

A public mortuary should be provided with a resident attendant, whose duty should be at all times to receive under his charge bodies brought to him by the police, or by the coroner's constable, or by order from a duly qualified medical man, and that the bodies of persons brought by relatives or friends, who guarantee the expenses of interment and removal under fixed rules, be signed by them also that he receive the bodies of persons found dead and who are unknown. The attendant should be responsible for the proper cleansing, disinfecting, and ventilating the rooms generally, and particularly that used for *post mortem* examinations.

He should be required to keep a mortuary register, in which should be entered the name, and other particulars of persons brought in, the names and conditions of the persons, who are responsible for the removal and for the expenses of the interment of the body deposited, and that a register be kept of the house and place of removal, and of the manner in which the removal has been effected.

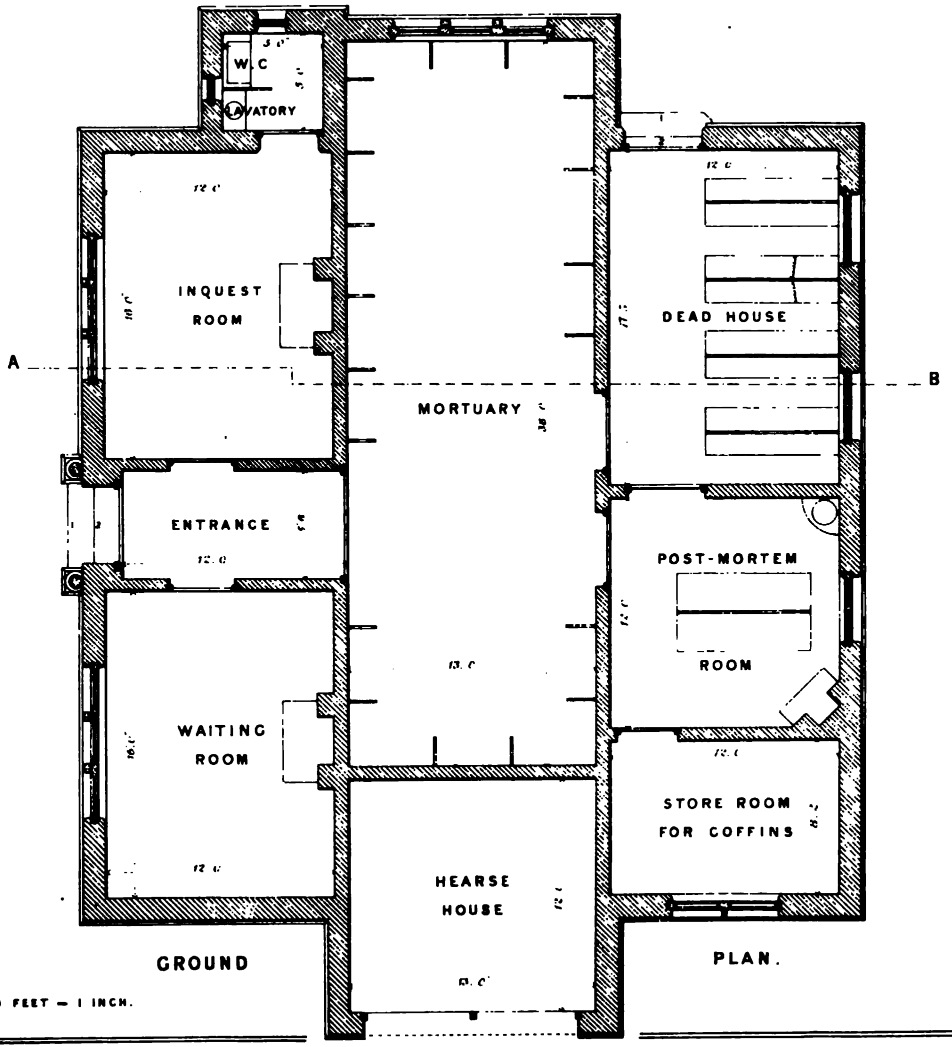
He should be also required to give notice at the police station or to the coroner's constable when a body has been admitted which is unknown, as well as to the parish authorities and undertaker and

DESIGN FOR A MORTUARY BUILDING.



SECTION ON A, B.

SCALE 8 FEET = 1 INCH



GROUND PLAN.

SCALE 10 FEET = 1 INCH.

ALBERT BRIDGMAN INV^T
105 LONDON WALL, E.C
NOV^R 1869

Lithog^d for the RIBA. by Kell Bro^s London. E. C

contractor for the burial of the bodies not claimed or known, and also to the persons who have to remove or bury after a coroner's inquest or otherwise. The public should have free access at certain hours either to visit or view the bodies of the persons deposited, or for the identification of bodies found dead and unknown. In the plan submitted herewith most of them provide accommodation for coroner and jury, as well as a *post-mortem* room. In certain hospitals, lunatic asylums and many London parishes, the custom of a coroner and jury going to a public-house to hold an inquest is rendered unnecessary, for a suitable room is provided by the authorities, and a degree of dignity is thus attached to the proceedings, which it is almost hopeless to expect to be the case amidst the din and bustle of a tavern. The Middlesex and University College Hospitals, the Royal Free Hospital, Gray's Inn Road, and the Marylebone and Holborn Boards of Guardians may be mentioned as instances where the inquests are permitted to be held in a board room.

Secondly. The choice of a situation is of importance.

In the metropolis and in most large towns a very general approval will be given, that the best site is that of a closed burying ground or old churchyard. These are generally in central situations, and a less objectionable site could scarcely be named. In the parish of Marylebone a faculty has been obtained enabling the vestry to construct a mortuary in a disused burying ground, and after an inspection of the plans the rector, Rev. C. I. P. Eyre, though at first opposed to the proposal, was so much struck with the proposed improvement, that he has given his cordial adhesion to it. I exhibit a plan of the Marylebone structure, which is very simple, but I am afraid not altogether adapted for its purpose.

It would be also much in keeping with these unused burying grounds if the walks were well attended to, if they were tastefully planted with evergreens and ornamental gardening, and in shady places seats might be placed for the accommodation of persons who would be glad of a retired and quiet place within easy distance of their dwellings. The residence of the keeper might be at a lodge in the entrance, or as near as possible to the mortuary itself The cost of these buildings and the mode of raising funds for their erection and maintenance ought not to present any great difficulties with municipal authorities.

The law gives authority to Local Boards of Health, and the Burial Acts have likewise power to levy and appropriate funds for the purpose here indicated.* The estimate for the building or site will of course vary according to the special circumstances of each case, but from the experience of what has been done already it may be stated, that an outlay of from £300. to £1,000. would be the amount likely to be required. Mr. Hutchinson, the Mayor of Liverpool, gave £1,000. for the erection of a public mortuary, and the letter from him expressing his sentiments on the subject is well worthy of perusal. He said—

> "Apart from the inevitable consequences of such a state of things being most prejudicial to health, the "practice of retaining the corpse within the chambers of the living, amidst filth, squalor and wretchedness, "begets a feeling of irreverence and indifference, and the abandonment of those religious feelings which ought "to be associated with the obsequies of the dead. Nay, more, it has a positive demoralizing and brutalizing effect "upon the minds of the people; and any scheme which has a tendency to lessen the evil is worth the experiment, "even if it should prove abortive. I am fully alive to the difficulty and delicacy which surround the question. "The poor feel as acutely as the rich the loss of their friends, and we must not hastily and perforce do violence to "their natural feelings even in our attempt to serve them. Hitherto no plan has appeared to myself as feasible; "but the scheme you have now in view goes far to arrest the evil, if the poor can only be brought to understand how "much it is for their own advantage. So strong is the conviction forced upon my mind of the necessity of making "an attempt to grapple with this frightful condition of affairs, that if you think you see your way clear to the adoption "of your scheme, I will cheerfully undertake to defray the cost of erecting such a building as you propose."

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* Burial Acts, 15 and 16 Vict., cap. 85, ss. 41, 42.

In connection with this subject it may be mentioned, that a hand-hearse or fever ambulance might be kept in a shed attached to the mortuary; thus the difficulty now experienced as to where to keep these vehicles owing to their objectionable character, would also be avoided. Disinfectants might be stored or kept here, and the person in charge should be required to possess a knowledge of Stenhouse's method of using dry charcoal for deodorisation, or other means for making the room and coffins fit for view by those who have to enter, and thus the mortuary would do away with the annoyance and disgust now existing amongst jurymen and others in having to visit the parish dead-house in pursuance of their public duty.

In conclusion, gentlemen, I would simply remark, that I have endeavoured to place before you only that aspect of the question of public mortuaries most familiar to myself, and at the same time those facts least known to yourselves: believing that in the discussion and opinions which may arise you will be somewhat facilitated in your judgment of what architectural adaptations would, under these circumstances, be required to meet the approaching necessities of an advancing civilization.

Professor DONALDSON, Hon. Sec. For. Cor.—I am sure we must all feel very much obliged to Dr. Hardwicke for bringing a subject of this nature to our notice; because, though it is one of comparatively minor consideration in an architectural sense, yet no doubt it is one of considerable public importance. I am myself a member of a parochial board, before whom this subject has been recently brought, and I may say I take some shame to myself for not having given more consideration to some of the points that were there considered—that is in respect to the architectural features which should be given to such a building. I have myself built a hospital, and attached to it a mortuary, containing an examination room and other features pointed out by Dr. Hardwicke as required in buildings of this character. But in that case it formed part of the composition of the building, and to a certain degree had architectural features. But in the case to which I have referred, it is proposed to erect a mortuary in the stoneyard of the parish. The surveyor submitted certain drawings, but they had not that architectural appearance which I thought they ought to have, and I took upon myself to make some suggestions; because I do feel that when we have to deal with a subject so solemn as the remains of the departed—when we know how many feelings are associated in the minds of those who are connected with them by affection or other ties, we ought to pay the utmost respect possible to those susceptibilities. We are therefore indebted to the gentleman who, in bringing this subject before us, has asked us, as architects, to turn our attention to this subject. Wherefore is it we seek to make our churches architecturally attractive? Not to please the rich, but to put the poor in places where the feelings are raised to the sublime subject of the worship of the Almighty, instead of a mere barn or shed in which to hold their religious services. When I was in Paris two years ago, I went to see the new Morgue behind Notre Dame, the public dead-house, in which are deposited, for public inspection, the bodies found floating in the Seine, or of those who had met with their death from accidents or other causes, and were unclaimed. It is not merely a hovel, nor a common shed, but a building with some architectural pretensions, and affording considerable convenience; so that those, who have occasion to visit the impressive scene, are not huddled together, but treated with respect; and the remains of the dead are deposited there with a certain degree of thoughtful consideration. We are indebted to our friend Dr. Hardwicke for the information he has conveyed, and the suggestions he has made as to the manner in which we should apply our minds to this interesting subject, and I beg, in conclusion, to propose a vote of thanks to that gentleman for the communication with which he has favoured us.

Mr. Wyatt Papworth, Fellow.—I have very great pleasure in seconding the motion, and have nothing to add to what has already been said, excepting, I think, the structure, though small, is one which requires a little further consideration as to the name to be given to it. We may give it the name of mortuary, but I doubt whether it would be properly understood by the class of persons who would chiefly benefit by the erection of such buildings. They would hardly understand what a 'mortuary' is, and the only alternative would be to call it a dead-house, which might be repulsive to their feelings.

Professor **Donaldson**.—It might be called a mortuary chapel, and people would soon become accustomed to this modified term.

After some further remarks, during which the Chairman observed, that the *Ecclesiological Journal* had taken the matter up from an architectural point of view some years ago, the discussion was brought to a close, and a vote of thanks was unanimously passed to Dr. Hardwicke for his paper.

THE SYSTEM OF TENTS AND BARRACKS IN HOSPITALS.

By Dr. OPPERT.

HOSPITAL tents were used by the Romans of old in time of war, but recently they have been constructed on the area of hospitals to be used in time of peace. It seems that Frankfort-on-the-Maine was one of the first cities where a hospital tent was recommended to be tenanted by patients with surgical complaints, and during the last two or three years more of them were attached to the hospitals of German towns. They are rarely found in this country, but some of a peculiar construction were recently built in Paris. Flying roofs, covered balconies, have been used in a similar manner, and during a recent visit to Bonn, I found the patients even in the open air under the trees of the park, whence they were of course removed to their wards at night.

But as the tents are not destined to play a great rôle in hospitals, and as they already begin to be supplanted by more substantial buildings, I shall not describe them here, but pass at once to the latter, which are at present known under the not very appropriate name of hospital barracks. During the American war in 1864, the minister of war, Stanton, ordered barrack hospitals, or pavilion hospitals to be built, which were of large dimensions and peculiar construction. They had a length of 187 feet, a width of 24 feet, were generally one floor high, and had ridge ventilation. They were found exceedingly appropriate for the treatment of patients on whom surgical operations had been performed, and it struck Esse, of Berlin, two years ago that they might be imitated. He had one built in the Charité Hospital, which he describes in a recent work, and others are now in course of construction in Germany, viz., at Kiel and Leipzig.

The name is derived from the light and temporary character they had at first. For instance, in Hamburg one existed which was almost exclusively built of canvas, another of wood and canvas, but the Berlin barrack had already walls of wood and brick. This structure is 105 feet long, including two verandahs of 10½ feet width at both ends, and 37 feet wide, including the galleries on each long side. The latter are only 4½ feet wide. It is 3 or 4 feet raised from the ground, at the sides 13½ feet high, at the ridge 19 feet. The walls are formed by hollow bricks, lined inside and outside by vertical boards painted with oil colour. The roof has three layers of wood; the floor, which is hollow, only two. The roof is sloping, and has a second roof along the ridge 3 feet higher—both covered with tiles. Twenty patients are accommodated, and small rooms are partitioned off. The side windows and the ridge windows both are provided with glass louvres. Two tile stoves with air channels stand in the room, and an iron column passes through them, it extracts foul air by way of the hollow floor. At Greifswald, a university town, a similar but less substantial structure exists. At Leipzig, an old hospital has been given up, and a new orphan asylum, which became empty by having the children removed into the country, is destined for the new hospital, to which fourteen barracks are to be added. Four of them will be in no connexion with the others, which have a common corridor. The late asylum will serve for administrative purposes and a few wards. The barracks have a similar construction to that of Berlin, but no side galleries, and the water closets are better placed.

A new small lazaretto is built at Berlin, where two barracks lie on each side of a centre building, which contains the administration and some wards. The barracks of Kiel are already made of solid masonry, with sloping roof and ridge ventilation.

Before I describe the usefulness of these buildings, I may mention what we have here to be compared with them. The clinical wards of Guy's Hospital, which are at least twenty years old, are one-floored, and have a broad ridge supported by columns, and windows or louvres at the sides of the portion forming the ridge. The new Fever Hospital at Glasgow is one-floored, and consists of four pavilions, three of wood, one of stone, the roof has skylights which may be opened by ropes. A small fever house has been completed this year in the hospital enclosure at Chester, it has two wards one floor high, nothing than the roof above, which is open to the action of the winds, and the ceiling of the ward communicates with it. In India there exist some structures with roof ventilation and verandahs all round. They are also raised on pillars.

Still it is a novel thing to use these structures in the peculiar way they are used. They form appendages to the hospitals for patients to be transferred who have undergone surgical operations. These generally have made rapid remarkable recoveries. Eminent surgeons are loud in the praise of the barracks, and it is true that the air in them is very sweet. The patients are very contented, and feel happy in the large and airy wards.

Of course much can be said against these buildings. If they are constructed of wood, or partly of wood, which is recommended for cheapness, there is the danger from fire ; if without means of heating they are not at all cheap, as they can only be used during part of the year; in cold climates, Russia for instance, they could not be used; even in Berlin and Greifswald, it is sometimes difficult to maintain a convenient temperature, and the stoves consume a great many coals. Repairs cf the glass louvres may become frequent, rents between the boards have happened, especially at the roof, the floor sounds hollow, and they may not always maintain their reputation for high salubrity. For military hospitals especially, their use is limited, the third part of the soldiers in hospitals are venereal cases, and the others mostly of trivial importance.

As to the likelihood of their supplanting all other hospitals, I do not consider it at all probable. There are a great many chronic diseases of the lungs, the heart, the kidneys, the stomach, the bladder, besides cases of rheumatism, and mental disorders which need not be accommodated in barracks. The system of tent hospitals might be extended to fever patients, but not to all patients. Their success proves that it is not desirable to have many floors to a hospital, else the roof ventilation is impossible. It also proves that the construction of a hospital building has a material influence on the progress of the disease of the inmates. It proves that the admission of good air from above, and the escape of the foul one below, is the right plan, and that the fresh air should not be allowed to enter through the flooring. If barrack hospitals should bceome more common, this would be another step in the direction of abolishing large buildings containing many hundred patients. Perhaps the best mode of constructing a city hospital may be the pavilion plan, some of the pavilions being two floors high, others of one floor only and barrack-like, the administration building being separate.

Professor DONALDSON.—We are very much indebted to our friend Dr. Oppert for this kind communication. As he has said, on occasions of epidemic fever, such as that now raging in this metropolis, it is essential for us to be masters of the subject of temporary additions to the accommodation of these occasional patients. There is no doubt, that at this time arrangements are being made for the erection of buildings for these, it is to be hoped, temporary purposes. Of course it is most desirable, that the conditions, so clearly explained in the paper just read, under which they may be made effectual, combined with economy and due attention to sanitary considerations, should be understood aud confirmed by the experience already gained in other countries on the subject.

The thanks of the meeting were unanimously acccorded to Dr. Oppert, for his paper, at the conclusion of which, there having been no discussion on it, Professor Kerr drew attention to the following subject.

CALCULATIONS OF CRUSHING WEIGHT.

Professor **Kerr**, Fellow.—I desire to bring before the Institute a scientific problem which has arisen out of the accident at the Holborn Viaduct. It affects the highly important question of what is called *Crushing Weight.* On looking into the books with some care, I find, so far as I can see, no kind of sufficient data on which to determine such a case as that of the Viaduct. All architectural students are aware that there are tables of so-called crushing weights. These tables are derived from experiment. Various materials are set forth, and the weights tabulated which they are found to be respectively able to carry *per square inch of horizontal section.* [Professor **Donaldson**—Under like conditions?] No; without stating anything about conditions; for example, a granite shaft of so many superficial inches of horizontal section would crush, according to the tables, with so many tons weight—say, for a granite shaft, 3 tons per inch, irrespective of all else.

Now as regards the failure of the Holborn Viaduct (and I hope it will be distinctly understood that no question of responsibility for the failure itself is to be raised in discussing what I may say), it is clearly apparent that the failure may be looked upon as a question of crushing weight; for this term "crushing weight," in the sense in which we use it, is meant to cover, somewhat vaguely, and in a very general and comprehensive way all effects of breakage which may be produced by the compressive strain; and, accordingly, looking at the matter in that light, it is obvious that those granite stones have failed because of a certain consideration which is altogether overlooked in the ordinary tabulated data. This consideration is *the proportion subsisting between the depth or thickness of the stone and its horizontal area.* It is surely the case that the crushing of a perfectly cubical block is one thing, and the crushing of an extended slab of the same depth as the cubical block quite another thing; and this it is, so far as I perceive, that has really never been taken into serious consideration.

Now, I have taken the trouble to look into some of the tables, and try by calculation to discover some kind of relation between the experimental results, and the various dimensions of length, breadth, and width; and I am bound to say, I have utterly failed to discover any appearance of a rule. You may ask how I account for that. Very simply. I think natural stones in small cubes are not efficient for experiment; because, when they fail, it must to a certainty be owing to some accidental cleavage in the stone, or some accidental irregularity in the bed, or in the position of the stone, or what not. Therefore, I say, natural stone is not the proper material by which to discover the laws affecting dimensions. But there is one material in which it seems to me that experiments of this kind might be conducted with much more chance of success, and that is Mr. Ransome's artificial stone. This stone, as you know, is made of sand cemented by silicate of lime. It has been tried already in competition with natural stone on certain other ground, and has proved its superiority. This has been, I think, more particularly, with regard to grindstones and millstones; that is to say, nature never undertook to provide us with either grindstones or millstones, but we sought out the best natural materials we could find for the purpose; and we ultimately found that art could supply a better material than all. So also in the present case, it seems to me, that the homogeneousness of texture in this material is sufficiently perfect to justify us in supposing that if experiments were made upon it, in the question of crushing weight, they might be productive of something like regular results, from which to deduce formulæ; and I therefore suggest, whether any proposition could be made by this Institute whereby a series of experiments might be so conducted. The question of the probable result of the experiments may be thus put:—Suppose, for the sake of argument, that the strength of a piece of stone is directly as the depth, and inversely as the area of the bed; those conditions would certainly be simple enough, and I think might be taken to place the matter tentatively upon even a favourable footing. Now, observe the result. If we take a slab of stone, such as those which in the Holborn Viaduct constitute each an entire course of one of the piers, and if we say it is five times the depth in length, and five times the depth in width; that is to say, twenty-five squares of the depth in superficial area, it is plain that if the strength were inversely as the area, the crushing weight for a cube of the given depth, that is to say, a stone one-twenty-fifth of the area of bed, would be twenty-five times more (per square inch) than the weight which would be borne by the whole stone; and I am not sure that the disproportion arising from the difference of area would not be greater still. Looking at the proposition as it stands it is somewhat startling to us. We have not been accustomed to the idea that any such vital consideration could exist as yet undetected; but I think I have made it plain that some such question does exist, and that it is one which we should do well to seek to understand.

Professor DONALDSON.—It is to be regretted that our excellent friend has not drawn up in a more formal manner the remarks he has just submitted to us, in order that we might have had an opportunity of considering and discussing them in a more regular and methodical manner than we can do at present. The truth is, that we have been apt to consider bodies with respect to the weights they with a given area or base will support, rather in relation to their height than the bed. I think it is admitted that iron, for instance, will not bear more than thirty times its diameter without yielding to flexure. It then becomes so flexible on account of its tenuity in proportion to its bed, that it is not so liable to crushing as to bending. Now, it appears to me that all the experiments have proceeded upon the condition, that they have been made upon a limited area of a foot or one or two inches; and it has been assumed, however large the area of the stone may be, that was a sufficient basis on which to make your calculation. And it has been considered that, if any defect occurs, it would be in the bedding of the stone, arising, it may be, from accidental circumstances connected with the construction, and not with the resistance of the stone itself. The presumption is that there is a continuous bed, perfectly level, an equal compression upon one part and another, and upon these conditions the calculation is made. It is almost impossible to make calculations where you have to depend upon the good or bad workmanship of the man who sets the stone. The truth is, you must go upon certain fixed data—that the bed is perfectly level; that what it is put upon to try the experiments is perfectly rigid and steady, and offering a resistance, which cannot yield to the weight put upon it. No doubt, if experiments prove, that it depends upon the area rather than upon the material, the results would be very interesting to us all.

Professor KERR.—The experiments hitherto made appear to have tended to the determination of the difference between heights very much beyond the cube, and those results are tabulated and are useful; but the problem has never been attempted with regard to the question of thicknesses below the cube.

Mr. B. FERREY, Fellow.—We are indebted to Professor Kerr for bringing this subject to our notice, and for the scientific remarks he has made upon it; but it appears to me to be a subject that cannot be disposed of in the few remarks that have just been offered. It would be most useful to us if Professor Kerr would bring this matter before us in a more formal manner, so that it might be discussed in the way its importance deserves. I therefore hope he will not allow the matter to drop in this cursory manner.

Mr. JOHN P. SEDDON, Hon. Sec.—There is no doubt that an evening could be arranged for the discussion of this subject; but it appears to me that it would be desirable in the first instance to carry out the experiments which Professor Kerr has suggested. I believe we have had a committee before for carrying out experiments in reference to the heights and cubes of stone; and the efforts of that committee might be renewed with the co-operation of Professor Kerr. I recollect that the late Mr. Charles Smith gave valuable assistance to the former committee.

Professor DONALDSON.—In Rondelet's *Art de Bâtir* there are diagrams given, in respect of which, according to the area of the bed of the stone, there must be a certain thickness varying according to the nature of the stone to insure a proper resistance to the crushing weight.

Professor KERR.—The real difficulty is to find a material capable of being experimented upon in small sizes. If, for instance, we took this material (referring to the specimens of limestone from the Jura on the table), every one of these pieces might show a different result.

The discussion on this subject having been brought to a close, the Meeting adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, 17th January, 1870, E. I'ANSON, V. P., in the Chair, the following Paper was read:—

ON THE HISTORY AND RESTORATION OF HOLKHAM CHURCH, NORFOLK.

By JAMES K. COLLING, Fellow.

TO trace the history and vicissitudes of an ancient building, as far as can be gleaned upon stripping and laying bare its walls in the process of its restoration, must necessarily become a record of considerable interest both to the architect and the archæologist; and at the same time it forms in itself a statement of facts which we may never have again the same opportunity of examining so much in detail. With this view I have ventured to bring before you, this evening, to the best of my ability, a few remarks on Holkham Church, in the county of Norfolk, which have been compiled from notes taken during the progress of the work of restoration and partial re-building; to which I have added such historical facts as I have been able to collect.

The church stands within the park of Holkham, about half a mile from the Hall, the seat of the Right Honourable the Earl of Leicester. The Hall was commenced in the year 1734 and finished in 1765, and was designed and wholly arranged by the Earl of Leicester and the Earl of Burlington, *assisted* by William Kent—but the latter, I am assured upon good authority, was not really the architect of the building as it has generally been assumed that he was, although he probably designed a good deal of the interior finishings—Kent died in 1748, and he then appears to have been succeeded by Matthew Brettingham.* But considerable additions and improvements have been made since, by the present Earl. These were commenced in 1849 and completed in 1857, from the designs and under the superintendence of William Burn, Esq., one of the oldest and most respected Fellows of this Institute. At the same time very extensive and beautiful terrace gardens, a grand fountain, and other works were also added by W. A. Nesfield, Esq., the landscape gardener. The Hall is a work of very great merit, especially internally. The entrance hall, in the words of Gwilt "produces an effect unequalled by anything similar to it in England." An inscription over the entrance door informs us, that, "This seat on an open barren estate was planned, planted, built, decorated, and inhabited in the middle of the 18th century by Thomas Coke Earl of Leicester." The library at Holkham contains a very interesting souvenir of Sir Francis Chantry, viz.:—a brace of woodcocks beautifully sculptured by himself in statuary marble, and presented by him to the late Earl. "Upon one of his visits to Holkham, this famous sculptor, who was a keen sportsman, brought down two woodcocks at a single shot. Upon this nothing less would satisfy him, in commemoration of an exploit he so thoroughly enjoyed, than to present the woodcocks transformed to marble to his host."† Above the bas-relief is the following inscription: "Two woodcocks killed at Holkham, November, 1830, by Francis Chantrey, sculptor, at one shot, presented to Thos. Wm. Coke, Esq., 1834." Below the woodcocks is a medallion containing the head of Chantry, and is thus inscribed, "This medallion of Sir Francis Chantry was added by the Earl of Leicester, 1847." The church, which is dedicated to the Saxon Saint Withburga, stands on a hill or mound of sand, near the sea coast. The hill is somewhat singular and extends but a short distance beyond the walls. It is said to have been thrown up by the Saxons, but more probably it is natural and formed one among a number of drift hills of an ancient line of sea coast. This theory is especially borne out from the fact that another hill exists in the park, at a short distance south of the church, of a similar description, which is now covered with trees; and also that another hill did evidently exist on the north side of the church, but which has been nearly all removed. The sand having been used, at various times, for building and other purposes. The floor of the church is about 90 feet above the sea level, which is a great deal considering that it is situated upon a very flat coast. The tower can be seen from a great distance both from the sea and along the coast, and for that reason it has been used as a telegraph station in time of war.

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* Since reading the above, my attention has been drawn to a work published on Holkham, by Matthew Brettingham, in 1773, in which it is stated that, "The care of proportioning the parts at large, and the detail of each member of the building in particular, was committed by the Earl of Leicester to the superintendence of his own architect, Mr. Matthew Brettingham, of Norwich."

† Holkham Guide.

Holkham appears to have been a place of some importance in ancient times, but the village was not situated then where it is now, and probably from the reclaiming of land from the sea, which has been going on for many years past, the features of the place are now considerably altered. The present village is a mile east of the church, but the ancient village or town was to the west, and probably also around the church. The present lake, which forms a very handsome piece of water in the park, covering nearly 40 acres, and situated a little to the east of the church, was formerly an arm of the sea and probably formed the backwater of a harbour for shipping, the channel of which may still be distinctly traced across the enclosed grass marshes. It is recorded that this town with Burnham Deepdale, was appointed in the reign of Edward III. to find one ship, in order with others to transport the king's army from Dublin to Scotland. There was a market on Mondays, which is said to have been a great fish market, and that 4d. per annum were paid for fish stalls to the Lord of Wighton. There was also a fair held here on the decollation of St. John the Baptist, but both have long been obsolete. In Saxon times Holkham, which was known by the same name even at that time, belonged to Anna king of East Anglia, and it is said that he had a country seat here. Anna was a Christian king and fell in battle A.D. 654 fighting against Penda, king of Mercia, who was one of the last and the fiercest of the Saxon pagan chieftains. He had four daughters who were named Sexburga, Ethelburga, Etheldreda, and Withburga, all of whom at different times embraced the monastic life, and from the holiness of their lives, were considered as the special patronesses of East Anglia. Etheldreda who founded the monastery of Ely became the most famous. She was the first Abbess of Ely, her sister, Sexburga, being the second. Ethelburga became the Abbess of the Benedictine Nunnery at Barking in Essex—for king Anna also had a son named Erkenwald, who was made Bishop of London in 675; he founded the Abbey at Barking and made his sister Ethelburga the first Abbess. Withburga, the youngest daughter of king Anna, was born and educated at Holkham. In 650, a nunnery of Benedictines was founded at East Dereham, about 20 miles from Holkham, either by her father for her, or by herself, and she became the first Abbess. She died after living a long and holy life, and was buried there in the churchyard, but the place was destroyed by the Danes about a century afterwards. Her remains were eventually translated to Ely, and she was canonized with her sisters Etheldreda and Sexburga, with Ermenilda, the third Abbess of Ely, who was daughter of Sexburga. Richard, who was Abbot of Ely from 1100 to 1107, and who completed the eastern portion of the Cathedral, removed into it on October 17th, 1106, the bodies of these sainted Abbesses. It may not be uninteresting to notice that St. Werburgh, daughter of Ermenilda and granddaughter to Sexburga, became the fourth Abbess of Ely, and that she was buried at Hanbury in Staffordshire, but was afterwards translated to Chester, and the Cathedral there was dedicated to her, thus showing the extraordinary saintly character of the descendants of king Anna.

St. Withburga having been born at Holkham, and had there, no doubt, first made her vow to dedicate her life to God, would not forget the place of those early years and recollections. Therefore, in all probability, if her father had not previously done so, she herself would not have failed to have established a church there. It might have been a rude one, formed of wood perhaps, and probably was erected on this very hill of sand, where now, twelve centuries after stands the present church. However that may have been, a church was erected to her memory at Holkham, and the place for a time was called Withburgstowe. Now, as the present church was dedicated to her, we have every reason for supposing that that church was built upon the present site. We are told that after the irruption of the Danes in 870, when not only Dereham, but Ely, Peterborough and Crowland Abbeys were destroyed, there was no Bishop of East Anglia for more than 80 years, and till some time after 921 paganism was probably the profession of the majority in East Anglia. It might have been upon this revival of Christianity in the tenth century, when Æthelwolf was made Bishop of East Anglia, and the people were again brought back to the Christian faith, that Holkham Church, then no doubt in ruins, was rebuilt to the memory of St. Withburga. During the progress of the late works at Holkham we came upon some foundations at the west end of the church (see A in plan) which appear to have been those of a western tower. Now, as the present tower dates from early in the thirteenth century, it is not unreasonable to suppose that these foundations belonging to a tower formed part of the actual Saxon church which was erected to her memory, and when the place was called after her, Withburgstowe. The foundations would form a tower about 18 feet 6 inches square, having walls 2 feet 7 inches in thickness.

There is, however, strong evidence that a Norman church existed here before the erection of the present one, or more probably an addition to the Saxon one. This is shown by the various and rather numerous remains of Norman stonework, consisting mostly of zig-zags, billet mouldings, and cushion capitals, which have been found built up in the walls. The Norman church, however, appears to have been soon destroyed to make way for an early English one, and much of the Norman stonework was reworked and used to form the thirteenth-century structure. In the east wall of the chancel were found the remains of an early English triplet window, of simple character, which had been worked out of Norman mouldings, and other details. The stones out of which the capitals were worked for the window having a Norman billet moulding behind them, the height of the capitals or imposts being limited to the thickness of the moulding. Throughout the church there are numerous instances of stones having been worked twice. The portion inserted in the walls being of an earlier style than that exposed. This is not only the case of Norman stones being used for early English work, but also of early English details being found attached to decorated work.

What was the exact form the church of the thirteenth century assumed, and what was its extent, it is now impossible clearly to determine, but a large portion of it can be traced, the tower, which is on the south side of the church, and the western portion of the south aisle is of this date. It is of the simplest character, and probably is early in the style. The west window of the south aisle is a plain single early English lancet, and the south window of the westernmost bay, beyond the tower, is a double lancet. The aisle shows externally, on the western face, a line of gable much steeper than the present one, starting from a lower point than the present eaves; clearly showing the former existence of a much steeper roof than the present aisle roof. The same slope probably extended over both nave and aisles, and if so, at that time there could not have existed any clerestory. But there is some difficulty in following the plan of the thirteenth-century church eastward; for upon examining the wall of the aisle next the tower, it was found that it had been rebuilt at some subsequent period against that of the tower, and the south door of the aisle, which is early English, had been taken down and re-erected in a very clumsy manner. Possibly the wall and doorway were obliged to be taken down and re-erected in consequence of settlements of the foundations or from having become fractured by the weight of the tower. Whether there was a north aisle to the church of the thirteenth century it is impossible to say—probably not, as no early English remains whatever have been found in the north aisle.

The piers of the wide arch (see plan) on the south side of the nave are undoubtedly early English; they have nook shafts with foliated capitals on the angles next the aisle, and correspond with the work in the tower. The arch carried by these piers is probably of a later date. But why this arch was built so much wider than any others in the church, or in this position, is very difficult to determine. From some cross foundations which were found (see B on plan) extending across the aisle from the arch, and again appearing on the outside of the church, it would suggest that it might have been a transept, but the position is peculiar, coming as it does within about four feet of the east wall of the tower. Some indication of a door was found in the east wall of the tower. Might not the transept, if it were one, have been connected with the tower by a small intermediate building giving access from the tower to the transept? A single transept again appears to be quite an anomaly; however, as will be seen, this wide arch has had a peculiar influence upon the plan of the church.

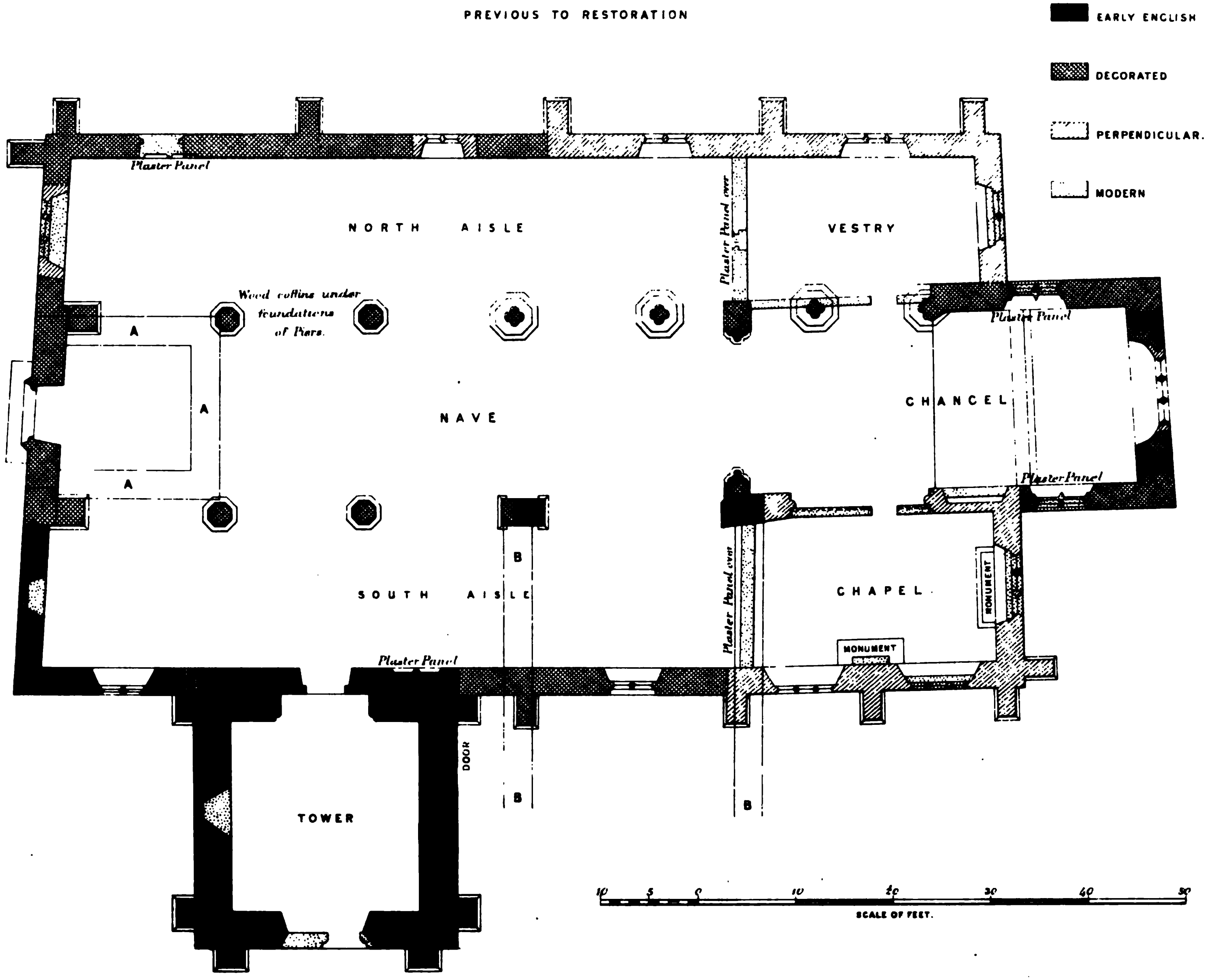
No part of the south wall eastward of the tower is early English. From this point it is decorated as far as the chancel aisle, where it ends with a straight upright joint. There was, however, an early English mutilated arch found over the decorated window of the south aisle, but it was evidently not in its original position, it appearing to have been put up in a very rough manner as a relieving arch to the inner portion of the decorated window. The mouldings were partially cut away and destroyed when the church was plastered. This window is probably worked out of early English stones—some of the early mouldings can be seen externally upon the stones of the window jamb.

As I have already noticed, portions of an early English triplet window were found in the east wall of the chancel, and a part of it appeared to be in its original position, and never to have been disturbed. If so, this shows the early English church to have been of the same length as the present. No less than the remains of three distinct windows were found in the east wall. The first, the early triplet; the second, the jamb of a window which was probably decorated, as what remained of the side windows of the chancel indicated them to have been decorated; probably, therefore, the east window was of the same date. The third window, the one existing at the commencement of the present alterations, was a very late and poor perpendicular three-light window. From the number of worked stones and mouldings found mixed up in the wall, as well as in the two side walls, and no buttresses existing at the angles, there can be no doubt of the east end having been partially taken down and re-erected several times.

The whole of the tower, as high as the sill of the belfry windows, is of the thirteenth century. The walls, which are built of rubble—as is the case with the whole of the church—were in a very fractured condition, more especially the south face. Two enormous fissures extended from the foundations to nearly up to the base of the belfry windows, which necessitated the whole south wall of the tower between the buttresses to be taken down and re-erected. Several other large fissures had to be cut out and rebuilt. The south door had been a double one, and the internal segmental arch and nook shafts remained, but in consequence of the state of the walls the doorway itself had become obliterated; one half of it having been bricked up to support the walling above, and a common doorway inserted on one side. No appearance of the original external arch existed. The west window of the tower, lighting the lower story, was a single lancet, the arch of which was gone and the rest of the window entirely blanked up. Above this western lancet there is another similar one, and in the story above are two small lancets on the south face. With the exception of the four belfry windows, these four small lancets appear to have been all the windows in the tower. The angle buttresses are flat and broad, indicating their early character and terminate below the set-off to the belfry story. The tower is of large size, measuring externally 27 feet square exclusive of the buttresses. Its height

HOLKHAM CHURCH, NORFOLK.

PREVIOUS TO RESTORATION



from the ground to the top of the battlements is 75 feet. The foundations of the tower were of the worst possible character, and amply account for the very fractured state of the walls. They commenced about 5 feet below the ground, and consisted of, first, a thin layer of earth laid upon the sand, upon which the whole church stands; upon that again thin layers (in the order named) of chalk, gravel, earth, then chalk and earth again, and lastly concrete, about a foot thick, the top of which was about a foot below the level of the ground. This spread about a foot or 18 inches beyond the walling. Upon this wretched foundation commenced the stonework, which had but one set-off, or footing, on the outside, and upon which was formed a low plinth with a wrought splayed stone 6 inches in height. In restoring the tower the old foundations were removed, and a bed of Portland cement concrete inserted at the lowest level, upon which 6 inch York landings were laid, being inserted in short lenghts and half through the wall at a time. From them the walls were carefully underpinned with brickwork and Portland cement. There is a drawing of the old and new foundations hung upon the walls. The belfry of the tower is of decorated date, and has a plain two-light window on each face without tracery. Remains were found of a horizontal string course, which had been cut away, at the springing of the arches, consisting of the ordinary roll moulding, and which continued over the windows as a label. This has been restored. The battlements and pinnacles are of perpendicular character, and have panels filled in with white flint-work, alternating with sculptured quatrefoils containing shields.

The church of the fourteenth century was an enlargement of the former church. The whole of the nave arches, as also probably the wide arch raised upon the thirteenth-century piers, and the chancel arches on the north side, are all of decorated character, although of two different dates. The north chancel arches, (see plate 2) with the two easternmost arches and piers of the nave, are of an earlier and better character, with clustered shafts, than the three western arches on each side of the nave, which have octagonal piers and plain double splays to the arches; the arches to the clustered piers having wave mouldings. The easternmost arch of the chancel is narrower than the others, and has a segmental arch only, the apex of which is much lower than the other arches. The first detached pier is set awry with the chancel and the arch above, as shewn by the strong and dotted lines upon the plan of the pier in plate 2. The moulded bases of the clustered shafts were all surrounded with a broad space in stonework, octagonal in plan (plate 2), which appears to have been originally meant for seats, although they are too low for that purpose according to the present level of the floor of the church, but probably there had been a floor at a lower level formerly. The width of the seats was 10 inches. Seats surrounding piers in this manner exist at Snettisham and Hunstanton churches in Norfolk. The last has also a stone seat against the walls of the aisles.

At a depth of 2 feet below the foundations of the two westernmost piers on the north side of the nave, were found human remains, and portions of wooden coffins, which must have been there when the piers were first erected. There were also human remains found under some of the foundations of the wall of the north aisle,—showing, I think, that the north aisle was at one time a portion of the church-yard, and that the piers and the walling were built over the old graves, when the church was enlarged.

The south window, coming nearly in the centre of the wide arch, is the only perfect decorated window remaining. It is of two lights, of the usual net tracery and of two orders of mouldings. The west doorway had been decorated, but it had been taken down and re-erected, and other later parts inserted that it was impossible to say precisely what its original character had been. The buttresses of the north aisle, from their bold proportions, had probably been decorated, but all the mouldings and the character of the set-offs had been so obliterated that it was impossible to decide with any certainty. The north door which had been built up was probably decorated, but very plain, consisting only of a hollow moulding of a quarter round form and a label which had been cut away.

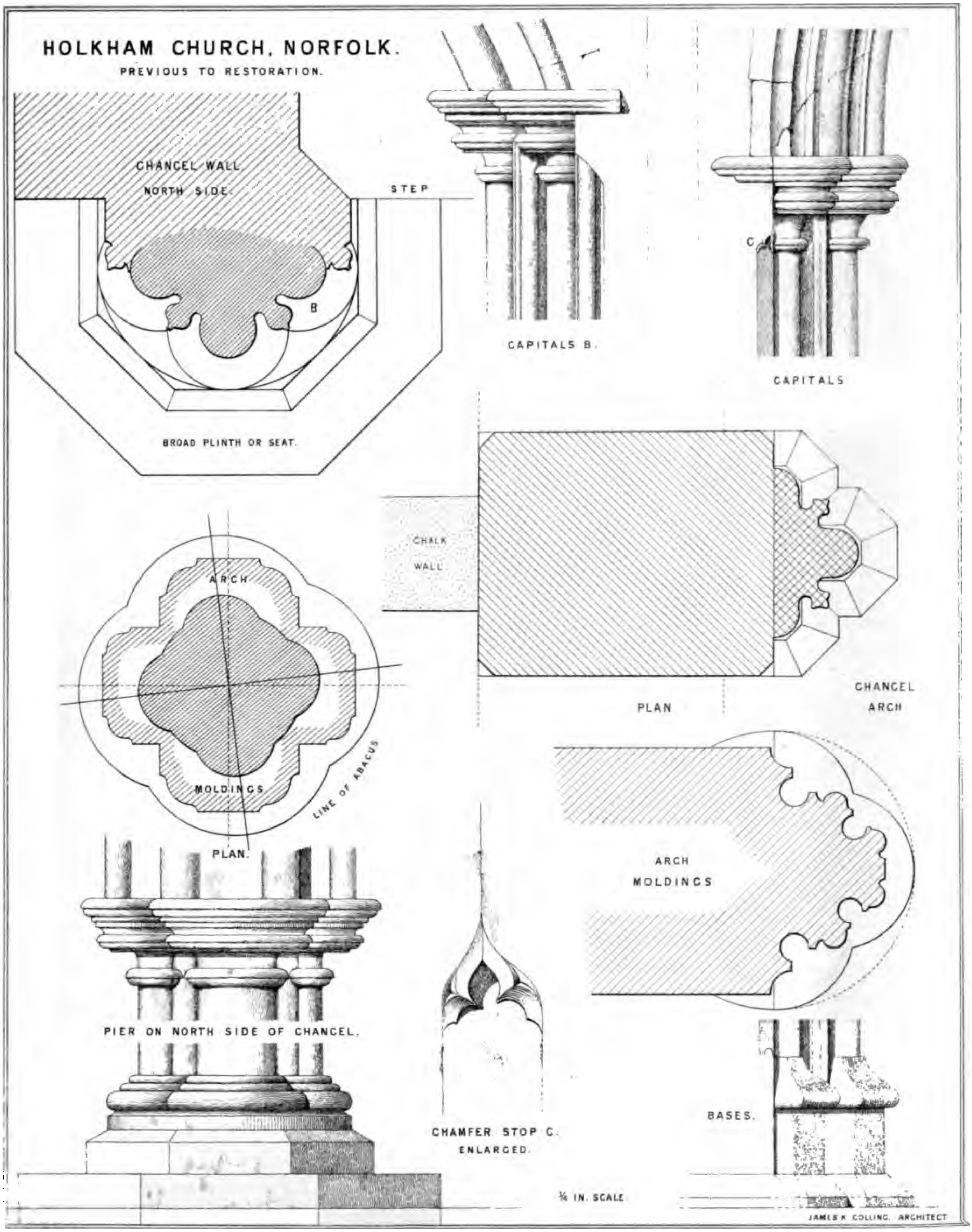
Among the more peculiar features belonging to the church, is the chancel arch, and that contains quite a history in itself, although somewhat difficult to read. It is built, as will be seen on referring to the plan, at the termination of the wide arch on the south side, which brings it on the north side exactly in the centre of a decorated arch. As far as the square piers of the chancel arch is concerned, they would appear, from some nicely stopped chamfers (plate 2), to be of the fourteenth century, yet one cannot imagine, if this be the case, why the arches on the north side were not arranged to suit it. The clustered shafting which is against the piers of the chancel arch, although evidently an imitation of decorated work, is of the fifteenth century, and there is an upright straight joint between each pier and the moulded shafts from top to bottom. The shafting also consists of exactly half a complete shaft, as if it might have been one shaft cut down the centre, and half stuck up on one side and half on the other. This upright straight joint, at the back of the shafts, runs through the bases at the bottom, and continues through the caps at the top, and has caused, from settlement of the shafting, a fracture in the arch above. Another peculiarity is, that the part of the abacus which is worked upon the square pier, is of a different sweep and radius, on plan, from that of the caps of the shafting. Looking precisely as if the arch might formerly have been supported by corbels, the mouldings of which were in one continuous curve, but that the corbels had been afterwards cut out, and the clustered perpendicular caps, bases and half shafts had been stuck up against the flat surfaces of the piers. The chancel arch, probably, is decorated, or at least of the same date as the square piers, and the fifteenth-century caps are evidently a copy of decorated work. The abacus especially is of the same form of moulding, although its radius is not the same as the portion left on the piers. The bases are clearly fifteenth-century work, no attempt having been made to make them in any way accord with the decorated bases of the other piers, as was done with the caps. The continuous upright joints between the square piers and the shafting look very extraordinary and insecure, although the shafts are probably fastened to the piers by plugs or dowels; yet it is peculiar to see stonework stuck up against a flat surface, like carpenter's work, in this manner. Now, if we consider the square piers and the chancel arch to be decorated, they could not have been erected at a very long period after the north arches of the nave and chancel were finished, and yet when they were erected no provision whatever was made for a chancel arch, as they are continuous from the nave into the chancel. There are no divisions either separating the nave aisles from the chancel aisles. (The walls shown dividing the aisles in the plan, are late erections and only about 10 feet high.) It would therefore appear, in the fourteenth-century church as if the intention at first was not to have any separation between the nave and chancel; and yet, before many years had elapsed they must have altered their minds, and have erected the present arch.

The proportions of the decorated arches of the nave and chancel are very good, the piers being 12 feet 6 inches high, about 12 feet apart, and the arches rising 9 feet. This, with rather a narrow nave, which is only 18 feet, and the clerestory above, gives a fine lofty proportion to the inside of the church, which is 42 feet from the floor to the apex of the roof. Why the easternmost arch in the chancel on the north side was made narrower than all the others, only 9 feet 3 inches wide, and segmental, it is impossible to say. There is no apparent reason for it. The north chancel wall also, eastward of the arches does not come in a line with the piers and arches, causing an awkward break in the chancel and a corresponding projection into the aisle. In the respond here there is a peculiarity from the wall shafts continuing beyond the wall stopping (plate 2). That is, the pier appearing as if it might originally have been worked as a detached one, and afterwards imbedded into the wall, or the wall built up against it and formed into a respond.

The arches at the responds at the west end, and the one abutting upon the wide arch, are carried upon plain moulded corbels. The one at the north-west finishing in a nicely carved knot. The west end of the church is not at right angles with the nave, which throws the position of all the piers out so

HOLKHAM CHURCH, NORFOLK.

PREVIOUS TO RESTORATION.



BROAD PLINTH OR SEAT.

CAPITALS B.

CAPITALS

PLAN

CHANCEL ARCH

PLAN.

ARCH MOLDINGS

PIER ON NORTH SIDE OF CHANCEL.

CHAMFER STOP C. ENLARGED.

BASES.

Lithogd for the R.I.B.A. by Kell Bros London E.C.

that no two come opposite each other. In fact the church is so remarkably irregular throughout, that it would be impossible to mention every instance of the kind. Straight joints existed between the responds and the western wall, the northern respond being as much as three inches away from and clear of the wall. Transverse straight joints were again observable in the west wall near the responds. In the restoration I added external buttresses in a line with the responds, also angle buttresses to the south-west angle, the early English portion, as this angle was very much fractured, necessitating a large portion of it to be taken down.

The whole of the windows of the church, with the exception of those already mentioned (as well as the whole of the clerestory), were perpendicular, some of them being very late in date and extremely poor and common-place in character. The windows of the north aisle of the nave and chancel, were no doubt late insertions, as the fourteenth-century arcade of the nave and chancel shows that the aisle must have been completed in that style also. The late windows, therefore, of the nave aisle have been done away with and two-light decorated windows inserted in lieu of them, corresponding in character with the decorated window on the south side. On the south side of the church the chancel aisle is clearly a perpendicular addition and late in the fifteenth century. The arch communicating with the chancel corresponds with it in date. At the back of the chancel wall against the chancel arch, there at one time existed a rood staircase and the door is still in existence on the chancel side; it has a Tudor arch, and probably is of the same date as this chancel aisle.

On the south side of the chancel beyond the arch to the chapel were found the remains of some sedilia. Above the seats was a recess, arched over with a four-centered arch. The lower portion of the recess was painted in imitation of a curtain in red and black, diapered with flowers.

The original roofs of the church, as far as could be determined by the remains which were found, were of oak and of plain fifteenth-century character. The nave roof had a pitch of about forty-five degrees, and was carried by trusses with arched braces coming down upon plain oak moulded corbels. The aisle roofs were nearly flat, but some of the old timbers which were still in existence show that they were very boldly moulded.

During the progress of the restorations a very interesting series of coped tombstones or coffin covers were discovered in various positions. Some in the church-yard, others under the foundations, or buried up in the walls, but all more or less close to the tower; and I imagine them to be of the twelfth century; but it is difficult to assign to them anything like an exact date. Six of these coffin stones were found, although some were broken in several pieces, and these have been now preserved in the pavement of the west end of the church. There were also found some fragments of others, as well as a portion of one of the stone coffins. The covers all have crosses upon them of an early character, in slight relief; some of them have a second cross at the foot, while others are finished with the usual steps at the bottom. In the centre, and united to the stem of the cross, is a peculiar formed ornament shaped somewhat after the manner of a bracket. This is repeated upon all that we found, with the exception of one. Two of the coffin stones have inscriptions around them. One runs thus, and is in old Norman French:

✠ ANNEYS : DEBRVNHAM : LA : FEMME : ADAM : HAMVND—GIT : ICIDEV : DE : LALME : EY, the remainder being broken away, but probably EYT : MERCI. which may be translated "Anne of Brunham" (or Burnham, as several of the neighbouring villages have that name,) "wife of Adam Hamund lies here, God have mercy upon her soul." The inscription on the other stone is very similar, and is also to a Hamund, but the N is omitted. It runs thus:—

✠ SIMVND : HAMVD : GIT : ICI : DEV : D : : LA : : : : : : : : : : EYT : MERCI : one letter and the word "alme" being obliterated. This inscription, however, supplies what is lost in the first. The words also "ici" and "Dieu" are written distinctly as two words, while in the first they are joined together as if all in one word. The stones are in tolerably good preservation. There is a tomb stone of a very similar description in the churchyard of the neighbouring church of Burnham Thorpe, but it is without any inscription. I consider these tombstones to be of Norman date, or very early in the thirteenth century. I would also draw your attention to a stone upon the table which was found buried up in the walls of the church, but I am unable myself to determine the date of it. At the first glance I pronounced it to be Saxon, but upon further examination, I do not think it can be.

Few churches, perhaps, have ever seen more changes and alterations than Holkham Church—from the time when a church was first erected upon the spot up to the present, a succession of alterations or additions appear, from time to time to have been going on in some form or other. After the decline of Gothic architecture the church appears to have been allowed to fall into considerable decay, for in 1767 it is recorded that the Countess Dowager of Leicester repaired the church at a cost of £1000. Blomefield in his history of Norfolk has a particular account of this reparation, which must have been written only a few years after the work was completed. He says, "in the spring of 1767 her Ladyship began to repair Holkham Church. All the outside walls and stone window frames were repaired throughout, the roof made strong and part of it new leaded, the inside of the whole stuccoed and ceiled; the floors entirely new paved, the pews and seats all new and erected in a regular form. The pulpit, desks, communion table and rails thereto all mahogany;* a marble font, plate for the communion, linen and books for all the services; the old monuments restored, the vestry room fitted up and all the windows new glazed. The whole was finished at Easter, 1768, at the sole expense of her Ladyship." Then follows some observations highly in praise of her Ladyship, and although not a very judicious one, we cannot help seeing that this was a very well-meaning restoration of the church, according to the ideas of what a church should be at that time. The arms of the Countess of Leicester were painted in the west window of the church, and underneath was this inscription. "In the years 1767 and 1768 this church and chancel were repaired and beautified at the sole expense of Margaret Baroness Clifford, Countess Dowager of Leicester." This was the same lady who finished Holkham Hall, after the death of her husband.

Among other things which were done at this time was the cutting away of the lower portion of the curved ribs of the old roof to make room for the new coved plaster ceiling, which extended throughout the nave, aisles and chancel, and was hung up to, and supported by, the ancient roofs. The date 1767 was found cut upon one of the timbers of the old roof, which was the date of the new ceiling.

In 1785 the church was again repaired as recorded on a stone inserted in the western wall over the west entrance. It runs thus—"This church and steeple were new roofed, slated, stuccoed and glazed at the sole expense of Thomas William Coke, Esq., Anno domini, 1785." The new roofs referred to here consisted of deal rafters being laid entirely over the old roofs below and the whole covered with slate, so that although carrying a ceiling inside and a new covering outside, the old mutilated roofs had still to carry the weight of the whole, and which they did up to the time when they had to be removed for the present restorations.

A description of the church immediately before the commencement of the present works will show to what a state the church had been brought by the stuccoing and other work. The walls, which consist of the usual Norfolk rubble work with dressed stone quoins, had not only been covered up externally by plaster or stuccoing; but all projections, such as string courses, many of the label mouldings to the windows, and the nosings to the water tables of the buttresses, had been cut off and plastered over. The walls, which are built without plinths, had half-brick plinths added to them in white bricks, and brick battlements continued throughout the church, to aisles, clerestory, chancel and also gables. But a great peculiarity was that every slope or set-off of the buttresses of both church and tower, as well as the whole of the battlements, were covered up with roofing slates fastened on with irons and run with lead. The whole external surface of the walling, as also the side windows of the chancel, the east and west windows of the north and south aisles, the west window of the tower, as well as the easternmost side window of the south aisle and the north door, were all covered up and plastered over in this manner with a thick coating of plastering. In many cases more than one coat, covering up everything in one plain even surface, jointed in imitation of stone, from the brick battlements at top to the brick plinth at the bottom. In the tower, even the flint panelled battlements, of fifteenth century date, were all covered up with the uniform coating of plaster, with the exception of the sunk quatrefoil panels, which alone were allowed to show themselves. Much of this stucco coating had fallen off, or was loose in many places, especially on the stone quoins of the buttresses, doors and windows, which gave very little key to the plaster. At the jambs of the windows and doors, as well as to the cills of the windows the plaster had to be worked down to a very thin coat, as of course there was nothing whatever to stop the edge of the plaster against. This no doubt was one great cause of its failure, and this difficulty might possibly have been the reason for their stopping up all the doors and windows which they thought they could spare.

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* This is a slight error, as the material was oak.

Internally, besides the coved plaster ceilings, the walls and arches were covered up with plastering and whitewash, with a great deal of lath and plaster to carry out the ideas of the architect—for there was an architect for these alterations, no less a person than the celebrated James Wyatt, architect of Fonthill Abbey, and who also did so much to *beautify* Salisbury Cathedral. On the walls were several imitations of blank windows with Gothic tracery in the head, all carefully wrought in plaster and evidently copied in a very indifferent manner, from the two-light decorated window in the south aisle. One of these panels was placed between the present window and the south door, another nearly over the blocked-up north door—part of the stone door head having been cut away to make room for the plaster panel. Two others were at the east end of the north and south aisles, which were completely cut off from the eastern portions or chancel aisles by lath and plaster deal stud partitions, and ornamented with repetitions of the Gothic plaster panels or blank windows. These partitions stood on low walls, which on the north side was a 14 inch chalk wall about 10 feet high, in the centre of which was found, under the plastering, a small door blocked up, which was of the fifteenth century, or perhaps, as late as the sixteenth century, with some remains of colour upon it and the wall appeared to be of the same date. On the other side, the south, the partition stood on a 14 inch red brick wall, about the same height as the chalk wall on the north side. The arches on the north and south sides of the chancel were cut off in like manner with low brick walls. These were probably introduced in 1767, when it is said the vestry, "was fitted up," as the north side has been always used as the vestry. There is a curious circumstance connected with the low chalk wall on the north side—in building it, not even the plastering upon the walls at each end was disturbed, and when the wall was removed, the plastering against which it abutted was as perfect, or perhaps more so, than any other part, and on the plastering at one end, thus exposed by the removal of the wall, a rude painting or drawing was found, of which I have preserved a sketch. There are several instances of these straight joints in different parts of the church, some of which I have already noticed, showing that whenever any addition was carried out no attempt was made to bond the old work to the new, but a perfectly straight upright joint was left, so that it could be easily seen where the work of later date was added on to the earlier. The church had also an enormously heavy west gallery, containing a small organ shutting out the west window. The front of the gallery was formed of oak panelling with a heavy cornice supported on oak Roman Doric columns. In the centre of the nave, was an extraordinarily high pulpit in the same style, with reading desk and clerk's desk, descending from the same in regular order. The chancel was decorated with a heavy classical altar screen, in oak, with Corinthian pilasters and centre pediment. The seating consisted of the usual high square box pews, with some ordinary benches for the poor. The font which was placed in the south chancel aisle, was of a shallow basin form, supported on some sort of classic baluster. No doubt these were the fittings referred to by Blomefield.

The tower, as I mentioned at the commencement of my paper, was used for telegraphing in time of war, the belfry being fitted up as a comfortable living-room. The bells, which were sold by faculty in 1784, with the exception of one, which was removed to the floor below, where for the want of proper outlets for its sound, it could scarcely be heard when rung. It measured 3 feet 6 inches across the mouth and had the date upon it of 1608, with " John Draper me fecit." The walls of the belfry were plastered, with a plaster-groined ceiling, and sashes in the windows. It was reached by a convenient wooden staircase, and another led from the belfry or living-room to the top of the tower. It was, however, a mystery to know what the occupants did for a fire; but upon searching in the bottom story of the tower, a fire-place was discovered dug out of the lower part of the tower, the western lancet had been evidently turned into a flue, and the head of the window had served as an exit for the smoke. The lintel of the fire-place was formed by one of the early coffin stones, the plain face or underside being turned outwards. Upon stripping and cleaning the walls from whitewash and plaster, evident traces of the action of fire were found throughout the whole interior of the tower; one or two stones showing the effect of the fire upon them are laid upon the table. Thus the tower had not only been used as a dwelling place, but the interior had been completely burnt out at some time or other. From the fact that no charred parts were found upon any of the timbers, I conclude that they were all destroyed, and that it was necessary to completely renew them after the fire.

The present restorations, which have been carried out at a cost of about £9,000, at the sole expense of the Right Honourable the Earl of Leicester, consist necessarily of a partial rebuilding as well as restoration, and the necessity of supplying many features that have been lost or obliterated, but which no doubt the church originally possessed. The whole of the east end, a large portion of the tower as well as the double door, besides many other minor parts, had to be supplied and rebuilt. The additions to the tower have been made in the same style as the tower, the thirteenth century, and consist of the double doorway, a new doorway entering the church from the tower, a new ringing floor, and an arcaded stone staircase leading up to it. In the church the architecture of the fourteenth century (with the exception of the early English portion of the south aisle) has been adopted, as the church was principally of that date. The late windows, therefore, being evidently insertions, were done away with and decorated ones substituted, with the exception of those in the north and south chancel aisles, which have been retained as later additions to the church. The south chancel aisle being clearly entirely a late addition.

The one decorated south window was therefore carefully preserved and taken as the type to be followed for the whole of the others. The east window is made of five lights and the west of three lights, with a new decorated west door below. The whole of the plaster, both inside and out, has been removed and the stonework renewed or restored as was found necessary, but retaining the old wherever it was possible to do so. The rubble walling and flint work have been restored and pointed with grey mortar. The whole of the clerestory windows are new two-light decorated windows with the nave cornice in stone in lieu of brick battlements. The aisles also have been restored with stone parapets containing flint panelling. The roofs of the nave and chancel are of pitch pine, with curved braces, and carved bosses at their intersections with the purlins and ridge. They are covered with grey Staffordshire tiles. The aisle roofs are of a flat pitch, with half trusses having curved braces and open tracery in the spandrils. They are covered with lead. The chancel aisles are separated from the nave aisles as well as from the chancel by oak carved and pierced screens, the organ being combined with that in the south chancel arch. Many of the full-size details of these screens are upon the walls. The seating, which is all open, is of oak with carved backs and bench ends, with arm rests. The plain surface of the seat ends being panelled and enriched with carved foliage, arranged from nature, but treated conventionally, every panel throughout the seating being different. The reading desk is of a similar character to the seating, with wheat and tares on one side and barley and vetches on the other, with also an admixture of flowers, such as the poppy and corn cockle, with harvest mice. The pulpit is of Caen stone, with carved panels, containing the oak, ivy, maple and hawthorn, the upper part having polished red granite shafts at the angles, and is supported on a cluster of granite shafts with boldly-sculptured capitals. The font, which is placed in the centre of the nave at the west end, is also of Caen stone, with the emblems of the four Evangelists alternating with foliated panels upon the sides of the basin, supported on nine red polished granite shafts. The reredos consists of an arcade with red granite shafts and carved capitals and foliated spandrils. The flooring is laid with Maw's tiles. The altar space is of richer character, and has an admixture of black and white marble. This portion was arranged and executed by Messrs. Simpson and Son, of West Strand. The east and west windows are filled with decorated Grisaille glass, in geometrical pattern, by Messrs. Lavers, Barraud and Westlake. The remainder of the glass arranged with simple stamped quarries or borders, with early Grisaille glass in the early English windows has been executed by Messrs. Powell and Son. The general builder for the whole, who has done also the stone and wood carving, is Mr. Robinson Cornish of North Walsham, and I have great pleasure in expressing my warmest thanks to that gentleman for the excellent manner in which he has carried out the work. A peal of six bells, with provision for eight, has been cast and put up in the tower by Messrs. Warner and Sons, the tenor of which weighs about 20 cwt.

As to the further nature of the restoration, you will be best able to judge for yourselves from the drawings which are hung upon the walls. In conclusion, allow me to say, that if I have gone into some portions of the subject too minutely, and have troubled you with many small details, which are perhaps not of such importance as they appeared to me, I hope you will pardon me, and put it down to my anxiety to produce an accurate account of the history and restoration of Holkham Church.

Mr. M. E. HADFIELD, Fellow.—I rise with great pleasure, being accidentally in London, to propose that the thanks of the meeting be given to Mr. Colling for the very minute, careful, and exhaustive way in which he has treated the subject he has favoured us with. Knowing something as I do about the restoration of old churches, the history which we have heard this evening appears to be one which we have heard over and over again—indeed every time we are called upon to do anything to our old churches. We have first the Saxon church, then we have the Norman, then the early English additions, then the floral decorative period, after that the perpendicular period, and then we have those works of the Georgian era, of which the less is said the better. I gather from the able manner in which Mr. Colling has treated the subject, that this must be a very interesting church, and the way in which it has gradually grown up from its early beginning is very obvious. At this late hour of the evening, I will not enter into any discussion, but I feel very grateful to Mr. Colling for his paper, and I am sure those present will join me in thanking him for it. I ought to say a word with regard to the elaborate and beautiful designs and wood carvings which are exhibited. Those who know Mr. Colling, are aware that he stands very high in the art of decorative designing, and what we have heard and seen to-night is just what we might expect from Mr. Colling's master-hand. I beg, in conclusion, to move a vote of thanks to that gentleman for his very able paper.

Mr. JOHN P. SEDDON, Hon. Sec.—I beg to second the motion with great cordiality, and to express my high admiration of the beautiful and elaborate work which has been exhibited. I do not gather whether the whole of the screens mentioned are new or whether they are a restoration.

Mr. COLLING.—They are entirely new: the positions of the screens were formerly occupied by walls, those walls have been removed, and the open work screens put in their place.

Mr. SEDDON.—Norfolk is famed for its beautiful screens, and Mr. Colling has added another to them.

The CHAIRMAN.—If no gentleman has any other observations to make, I will put the motion that the best thanks be given to Mr. Colling for what has been very properly termed a most able and exhaustive paper. It affords another instance of the loving affection with which our old churches and buildings are regarded. This restoration has been effected by one individual at a considerable outlay, and is altogether a really interesting work, and it is quite evident that great care and attention have been devoted by the architect to the restoration as now presented to us. If there is no other merit of the Georgian age, it certainly has the merit of giving us a good crop of work in undoing the misdeeds of that period.

The vote of thanks to Mr. Colling was passed unanimously, and the meeting then adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 31st of January, 1870, E. I'ANSON, Vice-President, in the Chair, the following paper was read:—

ON THE ORNAMENTAL FEATURES OF ARABIC ARCHITECTURE IN EGYPT AND SYRIA.

By JOHN D. CRACE, Contributing Visitor.

LAST year, from the necessity of avoiding an English winter, I found myself in what always seemed to me an enchanted city—Cairo. A "convalescent," and therefore for the time an idle man, I found in its picturesque streets, its ever-moving colour, its variety of Eastern costume, its primitive manufactures; but above all, in the remains of its noble and graceful buildings, an endless field for amusement and for study.

A subsequent ride through Palestine and Syria was a good sequel to this sojourn in Egypt; and afforded an opportunity of extending my notes on Arabic buildings, and comparing their local peculiarities. I propose to lay before you, as simply as I can, some of these notes.

In a paper necessarily short it would not be possible to attempt an historical analysis of Arabian art. That it was a vigorous and beautiful outgrowth of more than one decadent and debased style is as true as it is remarkable. To trace the exact part or share which Persian, Greek or Copt each had in its development would be a difficult task. For this evening it will suffice for us to note the fact that among an energetic, conquering race, having *no art of their own*, but having an intense vigour of character and existence, a style of art sprung up which quickly ripened into individuality. And although, probably for a considerable period, every artist or skilled workman employed was an alien having his own art traditions, yet their varied workmanship and art seem to have been adapted and appropriated to one result, and that result a style as remarkable perhaps as any in the civilized world, not only for consistency and beauty, but for originality. For, whilst, no doubt, each separate feature might be traced to some parent source, the whole possesses a unity and completeness, in its best examples, unsurpassed in any other style.

I propose to call your attention more especially to the various *ornamental features* of the Arabic architecture of Egypt and Syria. But in order to do this explicitly, it will be necessary for me to touch to some extent also on some pecularities of construction; and to point out some of the special features and stepping stones of its development and growth.

It may be broadly stated that Arab architecture commenced *as a distinct style* about the middle of the ninth century, a little more than two hundred and fifty years after Mohammed's "flight," or about seventy years after the famous Haroun e' Rasheed of the Arabian Nights.

The earliest Arab monuments in Egypt upon any records of which reliance can be placed, are the "*Nilometer*," first completed A.D. 861, but altered and added to A.D. 872 by "Ibn Tooloon;" and the *Tooloon Mosque*, built A.D. 876. As is well known to most of you, both these buildings possess pointed arches, which are often quoted as the earliest known examples in systematic use. In addition to this, however, both present many features which continued throughout the best periods of the style. It may be as well here to note that the *Tooloon Mosque* is entirely built of burnt brick "*stuccoed*" to resemble stone; the *ornament*, which is of a bold and artistic character, being *cut* in the stucco by hand—not cast. In both this and the Nilometer the inscriptions are in the "*Kufic*" character, which bears the same relation to modern Arabic writing that our old black-letter does to our modern type.*

From the foundation of the Tooloon Mosque about a century elapses before we arrive at another distinct landmark in Arab architecture. This is the Mosque of "El Hákim" (the founder of the Druzes). This mosque was founded A.D. 1003, and has much of the same character as that last mentioned. The writing here is also Kufic and, intermixed with excellent scroll ornament, forms an admirable frieze. The open parapets here, of simple geometric pattern, are worth attention. (Figs. 1—2).

The examples which I have, so far, quoted, whilst possessing a distinct Arabic character, show almost as wide a difference from the subsequent Arabic monuments as our own "Norman" work does from the English work of the succeeding century. A certain massive, heavy appearance distinguishes them; nor was there as yet, apparently, any extensive use of the variegated materials which become so conspicuous a feature in the exterior of most of the later buildings.

I may here notice one very interesting monument of Cairo. Close to the "Morostan," and opening to the Kalaoon Mosque—in one of the most picturesque streets of Cairo—a very beautiful pointed doorway arrests the attention. Most people are struck with it; but the architect most so, for he at once recognises the familiar mouldings and grouped shafts of the early pointed architecture of Northern Europe. Its history is curious and very interesting. In the year A.D. 1291 Akka was taken by the Sultan Khaleel, the son of El Munsoor Kalaoon, the founder of the Morostan. Gibbon says of Akka (which was, for some years previous to the siege, the Metropolis of the Latin Christians): "It was adorned with strong and stately buildings, aqueducts," &c.; and that, after its capture, "By the command of the Sultan (Khaleel), the churches and fortifications of the Latin cities were demolished." He there found this beautiful doorway, the work of Crusaders, and removed it to Cairo, where it adorns the mosque which bears his father's name. The Arab historian "El Makreezee" speaks enthusiastically of its beauty. I mention this doorway because it is *earlier* than any of the more elaborate Arabic buildings of Cairo; and evidently excited considerable admiration in the Arab mind. An Arabic inscription on the lintel gives the date of its erection as 698 A.H. (or A.D. 1299). The Kalaoon Mosque was founded A.D. 1286, and completed A.D. 1305.

The Mosque of Sultan Hassan dates from about A.D. 1354, and is probably the most important of the mosques of Cairo. In it we see the details of Arabic ornament wrought to their greatest perfection. It would be impossible to find, for instance, a more exquisite specimen of writing, treated ornamentally, than the frieze of the great court and alcoves. The scroll interwoven with the Kufic writing is admirable. One door in this mosque is plated, as usual, with bronze in geometric patterns, but has raised bosses, exquisitely inlaid with the most delicate niello ornament in silver.

The noble recess of the main entrance of the Mosque of Sultan Hussan is a well-known feature; and its details of inlaid coloured stones, sculptured and interlaced patterns, are among the most perfect examples of Arabian art. The style has here attained its full development; combining the most perfect and highly finished details with the noble severity of the lofty walls, upwards of 100 feet high.

We have now arrived at the middle of the fourteenth century. (The period of Yussuf's Alhambra). We may turn to the beautiful group of domes and mosques known as the "Tombs of the Caliphs," about two miles out of the City of Cairo. We there find the grand sepulchral *Mosque of "Barkook,"* a most worthy example for study. This dates from the close of the fourteenth century. (" Barkook e' Zahir " died 1399, A.D.) For breadth of mass and effect, good proportion, picturesque parts and judicious detail there are few better examples. Here (as in most of the same group of buildings) we find the use of striped courses of dark and white stone.

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* The modern Arabic character was not used at all till the middle of the tenth century. Even then the "Kufic" only was used on buildings till the end of the "Fatemite" dynasty, about A.D. 1170. After that the Arabic and Kufic were *both* employed. Even as late as our fifteenth century, single inscriptions are occasionally written in both characters side by side.

The Mosque of " *El Moäiud* " in the city, with its spacious open cloister and well proportioned arcades, follows a few years later, about A.D. 1415 ; and in its ceilings and cornices we find an elaborate specimen of coloured decoration; much of the colouring being nearly confined to black, white and gold, with but a small relief of blue and red. Its masonry, both interior and exterior, is of red and white courses; the columns (being, as in very many of the Cairo mosques, borrowed from more ancient buildings) are of red porphyry.

Then, at the close of the fifteenth century, we have the Mosque of " El Kaitbai," who was buried here A.D. 1496; (when the Moors had already been driven from Granada). This is another of the groups known as the " Tombs of the Caliphs," and at once the most perfect and the most picturesque. It would probably be difficult to find in any country, or in any style, a more charming group of building than this mosque, with its high, graceful minaret, and its delicately sculptured dome, standing out from the pale desert against the rocky distance. The minaret may, I think, be considered the *most* elegant of all the Cairo minarets. The detail and interior decoration of the building are worthy of its general aspect. I shall presently refer to them again. With a view to making more clear the relative ages of the buildings I have mentioned, I have prepared a table showing their dates, side by side with those of the Alhambra.

The Dates of the Arabic Buildings of Cairo, compared with the Alhambra.

Date.	Cairo.	Alhambra.
A.D. 876	Mosque of Ibn Tooloon.	
1003	Mosque of El Hakim.	
1272		Death of Ibnu-l'Ahmar at Kasr-l'Hamra. The first Moorish King who resided there.
(1291	(The Gothic portal removed from Akka—re-erected 1299).	
1286 to 1305	" Morostan," and the " Mosque of Kalaoon.	
1302		Death of Mohammed II., who had continued the building.
1310		Mohammed III. erected the " Meejid-al-jami," described as having " Mosaics and delicate tracery."
1333 to 1353		Yussuf built and decorated the Courts of " the Fishpond" and " Ambassadors," the " Hall of the two Sisters," the Bânos, and the " Madrisah." (A.D. 1349).
1354	" Mosque of Sultan Hassan."	
1395	" Mosque of Sultan Barkook."	
1420	" Mosque of El Moäiud."	
1492		" Boabdil " surrendered Granada.
1496	" Mosque of Kaitbai."	

My object in enumerating the buildings I have quoted is to afford the opportunity of tracing the development of Arabic architecture by means of distinct and important landmarks. The list might be largely increased, and the intervals shortened, but without any very useful result.

It is now my purpose to consider the various details of Arabic buildings, without reference to date except where special notice is called for. It is, however, first desirable that I should set before you a few of the leading types of the structures themselves. They may be classed as follows: "Mosques," "Sebeels," "Gates," "Khans," and "Dwellings."

The mosques vary much in plan, according to the special conditions of their situation. The original form is an open court, surrounded by a covered, arched cloister of one or more aisles; the number of aisles being usually larger on one side than on the others, as two, three, or even five. Under the widest covered part is the "Mehráb" or sacred recess towards Mecca, and the high pulpit ("mimbar"). The decoration is also usually richer in this part. A fountain, or large covered cistern of water for ablution usually occupies the centre of the open enclosure. This type is taken from the first mosque at Mecca, and examples of it are found in the grand mosques of Damascus and Hebron; and at Cairo, in the mosques of "Amr," "Tooloon," "El Hakim," "El Moäiud." But some of these, as notably that of Damascus, have the sanctuary altogether enclosed. The second type has an open-court, having a centre fountain, with one or more large arched recesses or alcoves opening to it. Such is the Mosque of Sultan Hassan. Under the third head may be classed the mosques which are either altogether enclosed and roofed over (of every variety of plan) or are only partially open to the air. A fourth group may include the "Kubbets," or square, domed structures, which exist in considerable number near Cairo, and have been, in fact, mausolea. Some of these are beautifully and richly ornamented.

The "Sebeels," or drinking fountains, are very numerous in Cairo, and are among the most striking of its buildings. They are, most frequently, at the corners of streets, or in prominent places. Below is a single closed chamber, lighted by one or more large metal grilles, sometimes simple, sometimes very ornamental. Within is the water supply, with which a tube communicates, and, terminating in a small brass pipe or nozzle, allows the wayfarer to quench his thirst *by suction*, for the water is rarely allowed to run to waste.

The upper story of these buildings is almost always a school. They have usually been built as an act of charity by some person whose name they afterwards bear. "And thus," say the Arabs, "the thirsty man remembers gratefully the name of the founder; as also does the youth who is trained (and caned) in his school."

There is generally a wide eave, or verandah, of wood projecting some feet from the wall to give additional shade to those who choose to rest by the way. Sometimes the Sebeel is included in the same endowment as a mosque; in which case it forms a portion of the same building. The interior roofs are often richly panelled and decorated elaborately with colour and gilding.

The "Gates" have always in the East been treated as important, not only for defence but for ceremony; as might, therefore, be expected some of them are works of considerable grandeur. Such are the Bab e' Nasr and the Bab Zoweyleh of Cairo. Or, again, the Damascus Gate of Jerusalem. I may here note one curious feature of almost all the Saracenic gates of *Syrian* towns. The thoroughfare is never *direct*, but usually takes a rectangular turn. This does not apply, however, to the Cairo gates.

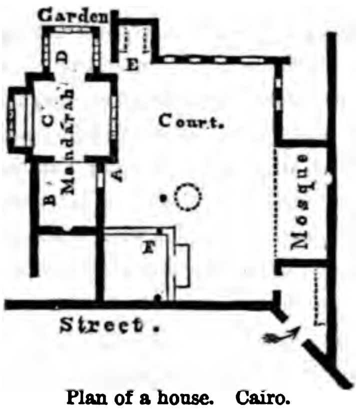
Their ornamental details do not call for separate notice at present.

The "Khans" consist, usually, of an open court, surrounded by small chambers or recesses, and have generally also an upper story. In the country, or by the roadside, they afford shelter and security for man and beast; and are invariably built near a good water supply. Usually they have been erected by private means, as acts of charity, and frequently bear the name of the founder. In the large cities the khan is sometimes a sort of inn, but most frequently is a depôt for merchandise; each being set aside for a speciality. They have frequently very handsome doorways. I exhibit sketches of two of these at Cairo. Round the open or enclosed court is an arcade, or series of recesses, to be used as shops, with a stone divan running in front of them. A wide eave or awning affords shade if the court be open. The famous khan of Assad Pascha at Damascus is entirely roofed in by domes, and has a fountain in the centre; a gallery runs round it: and doors open from this, as well as on the ground, into a series of apartments which are let as shops or offices.

The residences, or private houses of Cairo are of every variety of general plan; most, but not all, of the better class having an open court, into which the reception rooms open. The other rooms are built with a special regard to privacy. The rooms of the hárem are generally on the first floor, and some of these are very handsome. I shall perhaps best explain myself by describing to you one or two of those Cairo houses (built when Arabian art still flourished), which I have visited.

I will take first that of Ibn e' Sadád, the head of one of the oldest Arab families of Cairo, and a rich man. The visitor enters by a double gateway from the street, into a large open court. Upon his immediate right a considerable space is screened off by ornamental trellis-work. This is a private mosque, used for the devotions of our host and his household. There are chambers over this. On the left, an upper chamber, having a large window (a very exquisite specimen of the "Mushrebeeyeh"), is supported at its outer angle by a single column (E). The remainder of the court is surrounded by buildings with screened windows; but a deep, open recess, with divans and cushions, occupies the angle furthest from the entrance (F); a passage near this leads to the garden behind. The grand reception rooms occupy nearly the whole of one side, the rooms being the full height of the building. These rooms I shall endeavour to describe. In plan they are three; but, except by a step in the floor, and the arrangement of the ceilings, they practically form one large saloon, called "*Mandárah.*"

Entering a small doorway from the court at A, the first room, B, is lighted from above by an octagon lantern, or opening, in the centre of a ceiling of wood elegantly panelled by mouldings into geometrical devices, and having pendants at intervals. This ceiling is higher than those adjoining. From the ceiling downwards, the walls of this, as also of the other apartments, are lined with old *Persian glazed tiles*—blue and green on a white ground*—to within perhaps 9 or 10 feet of the floor, the total height being possibly 25 or 30 feet. The lower part of the wall is plain. At the end facing the other apartment is a niche or recess in the wall, with a small cascade, having shallow steps of marble. This first room (B) is in fact an ante-room, or the "durkäah" to the other, called the "leewan," which is entered by a low step, at which the domestics invariably take off their shoes, even when serving.



Plan of a house. Cairo.

In the opening a transverse beam, with deep trusses, or brackets, which terminate in corbels of gilt honey-comb work, carries the roof. Similar beams divide the square of the room C from the window recesses, which have separate, lower ceilings; and from the large bay or chamber (marked D) at the further end.

The ceiling of C is very rich, and of a form common to dwellings or mosques, as I shall presently point out. Large parallel beams or girders, about 12 inches thick, and perhaps 18 inches apart, are carried from side to side. These are elaborately chamfered from the ends, the centre length being rounded or octagonal on the lower face. The whole of this surface is decorated with the most elaborate ornament in gold, with grounds of blue or other colour, each beam differing from the next; the chamfering of the ends is also gilt and ornamented. The spaces between the beams are divided into small square and oblong panels, the framing of which, as well as the panels themselves, is elaborately decorated and gilt. The whole effect is rich and harmonious to the last degree. The ceiling of the bay (D) is of the same kind; and this portion of the saloon and the two recesses (in C) are fitted with deep divans. Low windows divided by mullions are behind them.

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* I believe that until about a hundred years ago, tiles of this description were still manufactured at Damascus.

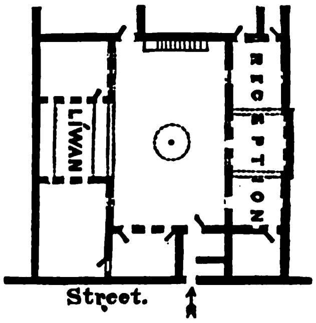
In dining with the master of the house, I observed that whilst we dined in the centre saloon, the household servants (as well as stray objects of charity) took their meal in the first ante-room, within our view. We afterwards retired to the further bay (D) for the post-prandial chibouque.

The house adjoining the one just described is at present occupied by Haleel Pasha, who kindly allowed me to see a splendid room on the first floor, the "Kàah," a part of the harem. This, in addition to having very beautiful ornamental, coloured ceilings, was lined to a height of 10 or 12 feet by marble, arranged in upright panels, divided by inlaid margins of elaborate design; the whole being surmounted by a broad inlaid frieze, broken at intervals by circles of coloured marble, somewhat like that of St. John Lateran, at Rome. On one side a cascade fountain is recessed in the marble wall, and the water from this flows through a narrow channel into a small circular basin in the floor, curiously carved with entwined serpents. From this it is again carried to the basin of a fountain in the centre of the floor, the floor itself being paved with inlaid marble.

The next house at Cairo which I shall describe is in a very neglected and ruinous state. It is known as the house of the Chief Mufti, or head magistrate, and seems to have been intended for reception only. It is a very interesting specimen of Arab domestic architecture. In general plan this resembles the reception rooms or "Mandàrah" already described, the ceilings being of the same description. They are, however, very much smaller. Below the ceiling beams is a wide cove, which is painted in panels, with conventional groups of flowers on grounds alternately blue and reddish-brown. Below this the wall surface, for a height of two or three feet, is painted with rough landscapes of most elementary treatment, and probably of later date than the rest, under which there is a very elegant frieze of ornament incised in white marble, and filled in with black and red cement. The wall below this level is much cut up with doors, windows and wooden cupboards, all of very varied design; but the intervals between them are lined with blue and white Persian tiles. The cascades again occur here, and are richly ornamented with gilding and inlaid pearl. The upper windows are filled with beautiful stained glass, in the Persian manner; that is, in a setting of deeply cut plaster or cement. The floor, with its centre shaped fountain basin ("faskeeyeh"), is an admirable specimen of inlaid marble.

Having briefly described specimens of the interiors of old Arab houses of Cairo, I may now turn your attention to those of Damascus, which, possessing some features in common, have also wide differences from them. The large houses of Damascus have invariably a spacious open court, paved with marble, in the centre of which is a fountain. This fountain varies in form and size. In some houses it forms a large, oblong pool, of perhaps 15 or 20 feet in length. In others, it is a circular or octagon basin, in either case the sides are raised about two feet or more from the ground; these sides being usually of marble, inlaid more or less elaborately.

On at least one side, sometimes on three sides, of the Court, is a wide arched opening in the wall, extending to the height of two stories, forming a large recess, or open apartment, with the floor raised above the level of the court. These (called "leewan") are fitted with divans, and are carpeted and very handsomely decorated in many cases. They are, in fact, the places of reception. On either side of the recess is generally a door leading to enclosed apartments ; reception rooms also. The ceiling of the recess is panelled and ornamented with gilding and rich colours; the effect of which tells admirably against the more subdued tones of the arch, when seen from the court. The face and soffit of the archivolt are, as a rule, ornamented with elegant mosaic or scroll patterns, in coloured cements, let into the stone.



Plan of a house. Damascus.

The walls of the court are frequently in courses of white and black, or white and some darker colour, with an ornamentally inlaid frieze at the first floor level. The heads of the doors and windows are likewise usually treated ornamentally, the archivolt or key-stones showing, and being frequently worked into interchangeable ornament at the joints. The surface is, also, often relieved, either with mosaic or ornament in coloured cements.

In some houses a triple chamber, such as I described at Cairo, opens on the court, arches of stone or wood dividing the centre from the wings; the flat ceilings being panelled as already described. The doors and windows open into the court on all sides, there being no windows opening on the street, on the ground-floor. This remark applies equally to Cairo houses, when built in a street. The windows of the first floor are protected at Cairo by the beautiful "Mushrebeeyeh," and in Damascus by a more simple trellis. I should not omit to state that the court of a Damascus house has usually an open balcony or gallery on one or more sides, in communication with the upper rooms or with the roof, precisely as in continental inns; or as, indeed, in some of the old inns of London.

There are several distinctions between the Arab domestic architecture of Egypt and that of Syria as represented at Damascus. Of the latter it may be said that it is more "Persian." Moreover, here the same general style and plan of house continues to be built to this day, although the details become very debased and corrupt. At Cairo, Arab architecture may be said to be extinct, the modern style of ornamentation being entirely derived from Europe and Turkey.

I will now proceed to describe the manner in which the various parts of Arabian buildings are ornamented, taking first the *exterior*.

The dome, which forms the prominent feature of many buildings, especially of those devoted to sacred uses, varies in form, but almost always has the pointed arch for its section. In the neighbourhood of Cairo it springs usually from a straight stilt. At Alexandria, however, and at Rosetta, it has occasionally the curve returned at the base. In Egypt, the external surface of the dome is almost always relieved or decorated. Sometimes this is by being vertically moulded. In other cases, the surface is moulded in a succession of bold chevrons; but in many instances, both in Cairo and its neighbourhood, the ornamentation of the dome is carried to a far more elaborate extent. Intricate geometrical figures are worked over the whole surface, whilst arabesques or scrolls, carved in a lower plane, enrich the ground between. The group of buildings known as the Tombs of the Caliphs, include many splendid examples of dome decoration. A broad band or frieze, usually of writing, is carried round the base of the dome. The broad splay, or "weathering," by which the structure rises from the square to the octagon is frequently very boldly moulded, the section showing on each of the square faces. The dome is generally surmounted by a bronze turned finial, carrying the crescent. Of these ornamented domes, a very elegant little example at Jerusalem is the "Dome of Moses," so named after "El Ashraf Moosa," who is said to have built it A.D. 1249 (?) It is situated within the "Haràm" enclosure, near the "Gate of the Chain."*

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* I should have taken this for a later building, and rather mistrust the date. Is it named after some other "Moosa"?

But even more characteristic than the dome, is the "*Minaret*" of the Arabian mosque. These vary much in form; and no less so in ornamentation. In plan, the octagon is perhaps the most frequent form in the minarets of Egypt; but they are also sometimes square, sometimes circular. In the earlier mosques, the minarets are shorter and more simple than in those of the fourteenth and fifteenth centuries. It is these latter which may be taken as examples of the minarets of Cairo; to this period belong the most perfect examples. Starting from the square base, they are splayed into the octagon, or circular plan. If octagon, the sides are sometimes panelled, or arcaded in the lower story. The structure is then corbelled out (usually, but not always, with the honey-comb work) sufficiently to allow of a balcony or gallery running round. The next story, of less diameter, will sometimes be panelled with mouldings geometrically arranged, or occasionally, as in one at Damascus (Jama Mállah), with bands of a differently coloured material, or with inlaid devices. Where octagon in the lower stories, the upper story is generally round, as in the beautiful minaret of Kaitbai. Some have the upper story open; the superstructure being carried by single or grouped columns. If coloured materials are used in the exterior of the rest of the building, they are generally used also in the minaret, either in bands, or ornamentally. One at Damascus is entirely ornamented with a series of bands of black and white stone, the dark courses being ornamented variously with geometric inlay. The balustrade of projecting balconies is sometimes of wood; but, in the best examples, more often of stone slabs pierced with geometrical tracery; these slabs being dropped into grooves cut in the angle posts of stone (see fig. 15, Mosque of Sultan Barkook). The minarets of Cairo are terminated variously. Many are surmounted by a terminal of the form of an inverted pear (Kaitbai); others have a sort of domical summit.

The Syrian minarets are more frequently, though by no means always, square in plan, are less elaborate in form, have fewer stories and less sculpture. They also invariably have a wooden canopy or roof projecting above the balcony, to protect the mueddin. Minarets are occasionally built in pairs, as in the mosque of "Sultan Barkook," and also as flanking towers, in the Bab Zoweyleh. In this last example one story is ornamented by the surface being moulded chevron ways, and the topmost balcony is elegantly carried out by the usual honey-comb bracketing, springing from a shaft at each angle of the octagon. Some of the *square* minarets of Syria strongly remind one of the Early Italian campaniles. The square tower is sometimes pierced with openings of two pointed lights of very Gothic appearance. One which overlooks the Haràm enclosure at Jerusalem is of this character; another at Damascus is, except in its upper story, almost a counterpart of the campanile of the "Palazzo Scaligeri" at Verona, even to the alternate courses below, and in the form and marking of the arcading above.

Arabian buildings, the minarets excepted, have rarely much exterior cornice. The Mosque of Sultan Hassan, at Cairo, has a heavier cornice than usual of bold honey-comb pattern. Interior cornices are more used, as I shall presently explain. An ornamental crenellation, or parapet, however, is frequently used. These are often shaped on the reversible principle; that is to say, the ornamental form is such as to correspond with the reversed form of the interval. I shall presently point out to what an extent this principle is carried in Arabian design.

It is in the *walls* of the larger buildings, that is to say in the treatment of the large masses, that we may perhaps find most to learn from Arabian architects. Most dignified and simple are they, preserving great breadth; yet without unsightly plainness or heaviness. It must, of course, be borne in mind that, under an eastern sun, less inequality of surface is requisite for effect than with our grey skies. The Arabian builders have admirably adjusted their wall surfaces to their climate. All their surface ornament is so subordinated as not to break up the masses, which are, usually, so arranged as to preserve the effect of height. The mosque of Sultan Hassan is a notable example of this, almost to a fault; but there is hardly one among the finer mosques which does not display this characteristic. The upper and lower window openings are usually grouped into bays slightly recessed; a wide frieze being frequently carried through and continued between them. Korán inscriptions usually form these friezes. Alternate courses of stone, of two or more colours, are of very frequent use, both for exterior and interior. Being used horizontally their tendency is to give size and width; a tendency the excess of which is skilfully counteracted in the recessing of the windows, as already mentioned, and still more so by the high doorways. Large plain surfaces are often relieved by panels, either of sculpture in low relief, or inlaid ornament of variously coloured materials. The examples which I show are from the "Jama Mállah," at Damascus; one of them combines carving and coloured inlay. Friezes, or courses, of interchanged ornament in two colours, inlaid, are also frequently used for the decoration of the external walls. (Fig. 10).

The external doorways of the principal mosques derive immense grandeur and dignity from the bold way in which they are set within a deep recess of great height; frequently nearly the full height of the building. Fine instances of this arrangement are the world-renowned doorway of the mosque of Sultan Hassan, and those of the Moäiud and Kaitbai mosques. Although these recesses are frequently elaborately ornamented with carving, inlay, or both; care is always taken to keep all subordinate to the main form, which is further emphasized by the use of alternate light and dark stones in the archivolt, when alternate courses are used in the walls. Sometimes also richly carved and inlaid borders frame the whole recess.

The interior walls of these entrance recesses are usually richly ornamented with coloured marble, inlaid in geometric devices, and their pavements are frequently very handsome. Sometimes the arched head of the recess has honeycomb pendentives elaborately worked; and, perhaps, in no situation does that ornament tell with such legitimate effect.

The door itself is, in the case of public buildings, usually a very handsome object. The most usual decoration of those of mosques consists of plates of bronze, elaborately wrought in the geometric devices, so familiar in Arabic and Moorish work. The surface of these is often richly engraved or chased, and the panels within the geometric forms pierced or engraved with elaborate detail. Richly worked raised bosses or studs mark the centre of each repeat of the design; and the handles, usually pendant rings, are handsomely worked. The "Khan of Assad Pacha," at Damascus, presents another form of strong door. There, thin strips of iron, overlapping each other horizontally, are fixed to the wooden frame by nails, with elongated lozenge-shaped heads, so set as to touch and form a hexagonal diaper. (Fig. 9).

The external doors of private houses are much simpler. Those at Cairo are most frequently set in a pointed or segmental arch, are plain match boarded, and then ornamented in colour with a painted device or frame, which usually contains an inscription in praise of God. The opening has often some simple decoration to the arched head, such as the band of interwoven moulding, so frequently used as a border in every situation.

The doors of private houses in Damascus, however, differ much from those at Cairo. *There* the door-head is generally segmental, and the wooden door itself has an outer ornamentally cut frame, under which the planks, placed straight or diagonally, are nailed to the stronger back framing, in such a way that the nail heads form part of a geometrical pattern drawn from nail to nail. Sometimes this pattern is only scratched or marked with a pencil line.

Having described the doorways, I will now briefly allude to the window openings, in so far as their external aspect is concerned. In the mosques and "kubbet," the upper windows are usually small single openings, with pointed heads. Openings of this kind generally occur in the circular wall, or drum, immediately under the dome; whilst in the space of wall between the splays, formed by the pendentives, they are clustered into two or three-light windows, like our simplest early English. Where the single-pointed upper windows are of a large size, they are often filled with pierced geometric tracery of stone or cement, or, occasionally, of wood. The lower windows have sometimes square, sometimes low segmental heads.

I have already alluded to the way in which the upper and lower windows are panelled together by recessing the wall. The ground floor windows of mosques or sebeels have usually a wooden frame, or architrave, with carved surface ornament, in which is a grille or trellis, more or less ornamental, of either bronze, iron or wood. Many of these consist simply of inch rods intersecting through a square boss. (Fig. 5). When this pattern is used in wood the rod is generally turned, with mouldings. Some of the metal grilles are wrought, or cast, in more elaborate patterns. (Fig. 4).

Other window openings have pointed heads, with light shafts in the reveals; or again, the same are double, with a light centre shaft and with their arches cusped, and these are often most elegant. Rosette and star-shaped window openings are also used; some of the former splaying outwards from a small circular opening, the cusps followed out in the splay. The example which I show contains both these forms; it is from the mosque in the Castle of Hunin, one of the most beautiful and picturesque spots in Syria. (Pl. 2).

I now come to the windows of the ordinary dwelling houses. First among these stands the beautiful "Mushrebeeyeh," to which Cairo, and the Arab quarters of other Egyptian towns, owe so much of their picturesque beauty. These are projecting bays or "oriels," of wooden lattice, of every variety of pattern and of lace-like delicacy. These lattices are most ingeniously constructed, the parts being first delicately turned, and then fitted together in a geometrical net-work. (Figs. 6—7). Some, again, are altogether simpler, being formed of flat laths, half lapped into each other, and notched, often with great ingenuity, so as to make the lattice ornamental, the openings becoming octagon or star-shaped, instead of merely square.

The "Mushrebeeyehs" vary greatly in size and form. The largest are usually square in plan, and are divided into four, five or six bays in their length. The lower part has enclosed panels, with some ornamental arrangement of mouldings on the surface. Above these are the trellis or lattice panels, and at the top are, not unfrequently, small squares, of coloured glass set in pierced ornament of plaster. The whole is crowned by a projecting canopy, with bratishing of wood, prettily shaped. (Fig. 11).

The "Mushrebeeyeh" is sometimes carried on stone corbels or wooden trusses, in which case the soffit is formed into a decorative ceiling, with geometrical pattern made by nailing on slips or mouldings. In other instances the lower part is corbelled out, as it were, by a bold cove; or again, more elegantly, by dividing the cove into a succession of octagonal pendentives; in either case being finished at the bottom by a reversed cresting or bratishing. (Pl. 3).

From these handsomer specimens the "Mushrebeeyeh" dwindles down to its probable prototype; the little projecting cupboard of lattice work, octagonal in plan and but just large enough to hold the family "ghoôleh" or porous jar, in which the water cools as the air passes through the surrounding trellis; for "*Mushrebeeyeh*" signifies the "*place for drink*."

Windows of this description are to be found in Jerusalem and Southern Syria, but not frequently; nor, at Damascus, did I find any of an ornamental kind. The windows there are trellised, it is true, but the trellis work is not made ornamental; it consists simply of thin laths from half to three-quarters of an inch wide, rounded on the outer side and nailed together pretty closely, most often diagonally, so as to form a plain lozenge trellis.

Of exterior features I have reserved till the last, the column and the arch. The former is, in the older works at least, wherever possible, borrowed capital and all from more ancient buildings, whether

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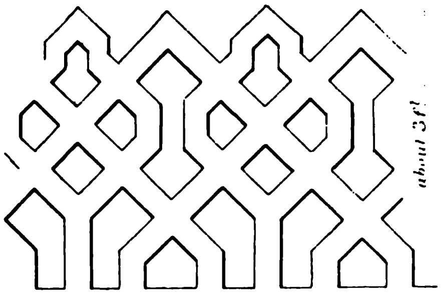

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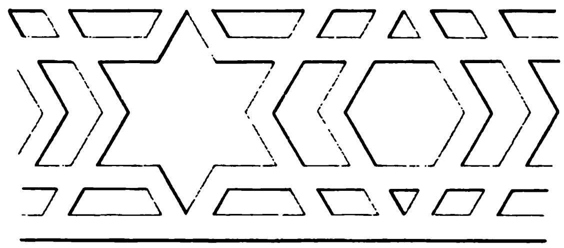

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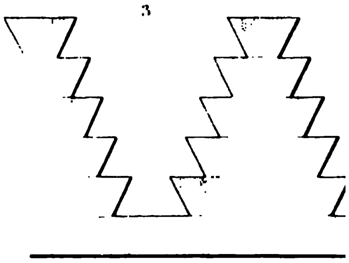

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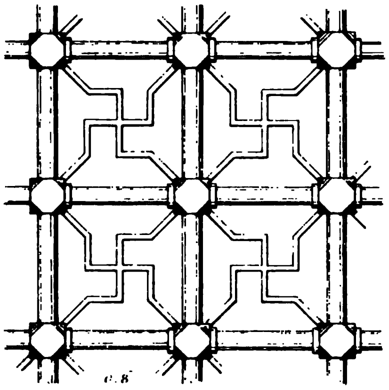

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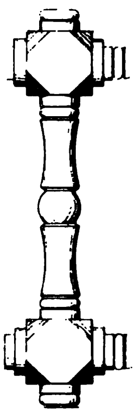

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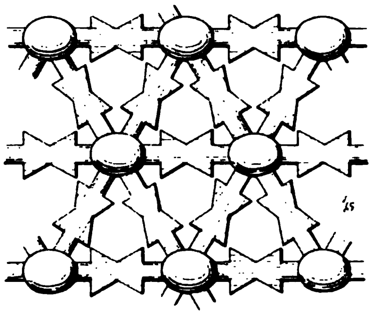

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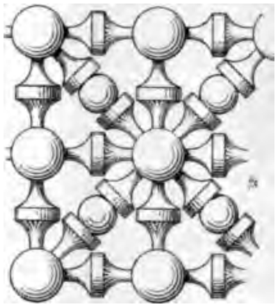

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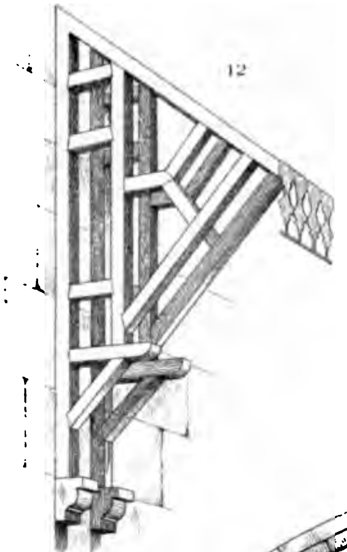

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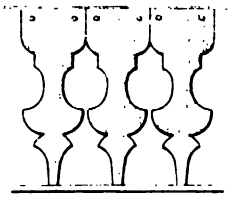

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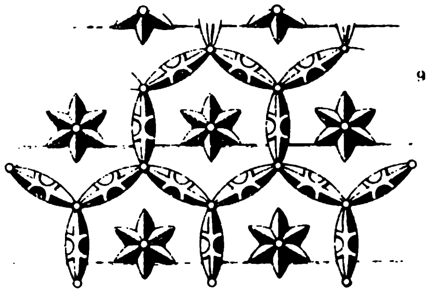

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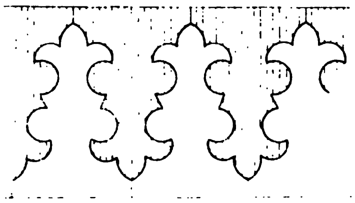

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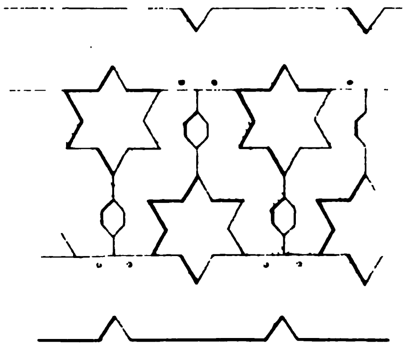

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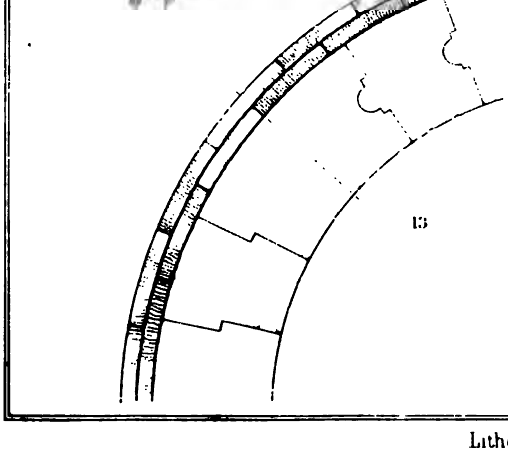

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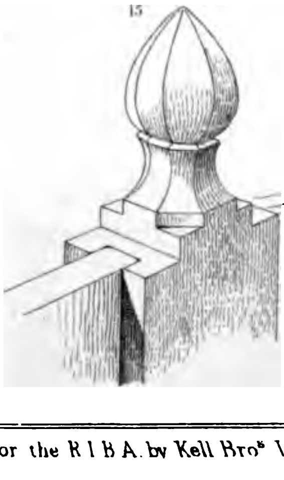

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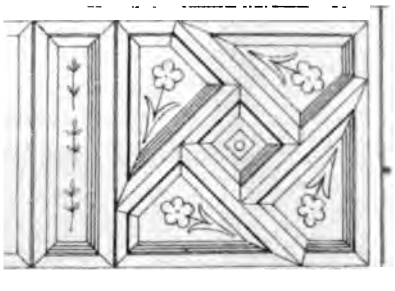


J D CRACE, DELT

Lithog^d for the R I B A. by Kell Bro^s London E.C.

Egyptian, Roman or Christian. As in the existing Roman basilicas, columns of odd lengths are frequently used; and the height, where defective, made up either by an impost or abacus, or by lowering the superposed structure to meet it.

One peculiar feature in connection with the column in Arabic buildings, is the almost invariable use of a *wooden cushion* between the capital and that which it carries. This is usually formed by two layers, placed in opposite directions, each consisting of from three to five pieces of wood 3 or 4 inches thick, and the necessary length. In the case of a continuous arcade, wooden tie bars extend from the centre of the cushion to the next column. Some allege that this arrangement is a provision against earthquakes. But, whatever its purpose, the practice seems to have been very general. The smaller columns, such as the shafts already spoken of as used in door or window openings, are often made very ornamental. Some terminate in a sort of ogival, bell-shaped capital, round or octagon. Others in a capital having a square abacus, from which is worked the honeycomb pattern, to meet the round or octagon of the shaft. The shaft itself is often divided in its height precisely as in Renaissance, the upper surface being twisted, and the lower portion panelled or made octagon; or even richly carved in low relief. Columns of this character are however usually of late date. But small shafts, twisted like Romanesque or Lombardic work, or ornamented throughout, are met with even in the older buildings.

The treatment of the arch is, in every style, a very distinctive feature, and this is especially the case in Arabic architecture. The forms of arch most favoured are the pointed and the segmental; the latter usually rather flat. The round horse-shoe arch of Moorish architecture is seldom met with in Egypt or Syria, although the pointed arch has frequently the slight return at the springing, which is so conspicuous in the true horse-shoe. The simple semicircular arch is however met with, as in the example of the gateway to a khan at Cairo (of which I exhibit a sketch) the ornamental treatment of which reminds one so forcibly of Norman work, than which it is much later.

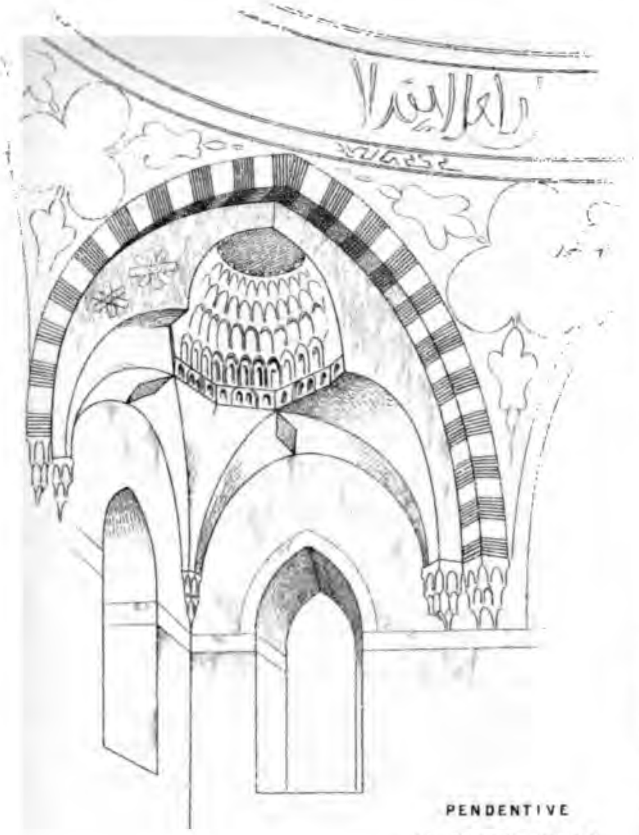
In the examples of the best periods of Arabian architecture, the treatment of the stones of the archivolt, where materials of two or more colours are used, is very distinctive; and this is especially the case with the segmental arch. The stones are, in this latter form of arch, almost invariably notched or keyed together; often, with most ingenious designs, in such a way as to produce a counter-changed ornament on the face of the archivolt. This is generally made to appear constructive, although in fact, it is not always so, but is occasionally produced by a thin layer or veneer on the surface, as is shewn by an example from the "Kubbet el Fedaweeyeh," near Cairo, where the *actual* construction *is* notched in the simpler way. The system is, however, frequently truly carried out very cleverly. A niche in the Mosque of "Barkook," is a striking example of this, the stones being elaborately worked into each other on the double curve, from the face to the back of the niche. The same thing occurs in some of the great entrance recesses.

In larger arches, such as gateways; and, also, where a straight lintel is required, a plain single or double set-back or notch is used merely as an additional security in construction. And we may note, that had the great centre stone of the lintel at Baalbek been thus keyed, it could not have slipped into the critical position which it now occupies. This construction, and its ornamental treatment, is as general in Damascus, and throughout the Arab buildings of Syria, as in Egypt. Indeed, the system is, perhaps, in even *more* extended use in Damascus than in Cairo; for not only is it applied to every form of arched door or window opening, but it is used for keying together the stones composing the basins of fountains, or even the straight threshold of a doorway. In painted decorations also the idea is made use of, though often in so modified or tortured a form as not to be really practicable. For some time, I imagined this system of notching or interlocking the archivolt to be a purely Arab invention. It may, however, I think, be shown that the Arabs derived this peculiarity from the same source as much of their building art. In the ruined "Palace of Belisarius, (as it is called,) at Constantinople, the interior round arches have the stones of their archivolts thus keyed or notched, some in the simplest way, some with the "half-round and arris," as in pure Arabian work. This construction appears, therefore, to have an origin as early, at least, as the time of Justinian, (say A.D. 560). (Fig. 13).

The extensive, and often exaggerated use of the relieving arch, is another peculiarity of the openings of Arabic buildings. Hardly a lintel or flat arch which is not relieved, at least once, either by a regular relieving arch, or by what is almost as common, a slight space or open joint between the arch or lintel and the next course, which is again relieved in the same way. This is sometimes repeated with three or four courses. The east gate of Damascus is a good example. (Pl. 2). It must be allowed that the effect (when visible) of this space or open joint, is displeasing; nor does it appear to be a justifiable expedient.

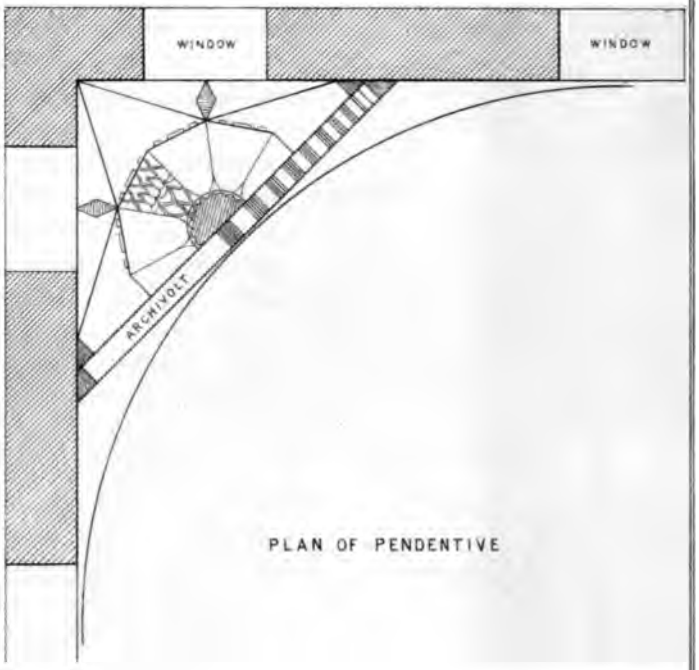
Before quitting the exterior for the interior of the building, I must not omit to allude to those portions of the structure in which wood is used with ornamental effect. I have already described the "Mushrebeeyeh," or "roshán," windows, which of themselves, are sufficient to set fancy at work, and to recall the "Thousand and one Nights." There are however, in addition to these, the trellis work, and pierced boarding used often to screen ordinary square window openings. The old slave market at Cairo, contains a variety of simple patterns of the latter description of wood-work (fig. 11); whilst every coffee shop, and almost every old house presents examples of the former. Besides these, there are the projecting eaves or verandahs of the "Sebeels," usually consisting of narrow boards fastened together with a bead to cover the joint, and finished at the outer edge with the cut bratishing already referred to. (Fig. 8.) In some cases, the bratishings are repeated twice or thrice, one below the other, a few inches being left from the face of one to the back of the next. A delicate lace-like effect is produced by this. These verandahs are usually supported by wooden truss brackets of open construction, which have a very pleasingly picturesque effect. (Fig. 12). It may be remarked of most of their wooden structures, that the material being scarce, is used with great economy and ingenuity.

It is time that we now turn our attention to the interior of the buildings, and observe the decorative treatment adopted. In the first place, it must be remembered, that the same use of alternately coloured courses which we notice in the exterior, is very frequently extended to the interior; and, even where they are not built in coloured material, the imitation is carried out in red and white, or black and white colours. This may be seen, not only in the mosques and other large buildings of Egypt, but in the courts and rooms of the private houses, both of Cairo and Damascus. At the latter place, there is scarcely a court of any large house, but presents an example of this system, more or less consistently carried out; whilst the great "Khan of Assad Pascha," in the same city, although a modern, and scarcely "Arab" structure, is a good example of the principle carried out to its fullest extent. (*Date* 1742 A.D.) The interior of the cupola is, not infrequently, decorated upon this system. At the base is a frieze consisting of inscription, either carved or painted, on a dark ground. Over this, the upright circular wall (the drum) which supports the dome itself, is pierced with pointed windows at short intervals. These are sometimes filled with pierced tracery, or have formerly contained coloured glass, which, however, few now retain. The intervals between the lights are sometimes plain, sometimes banded—in other cases are panelled and ornamented in colour or relief to agree with the windows. The cupola itself, is often partially banded in white, black, and red, relieved by zigzag courses; and towards the top, has a radiating counterchanged ornament of the same kind as that already described. This is one treatment, and specimens of this are to be seen in the "Tombs of the Caliphs," notably in that of "Barkook."



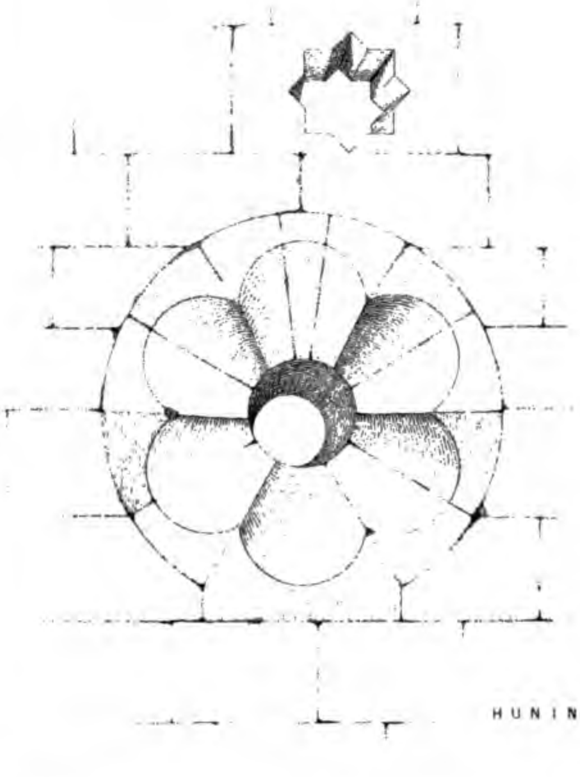
PENDENTIVE

EL KUBBET, CAIRO



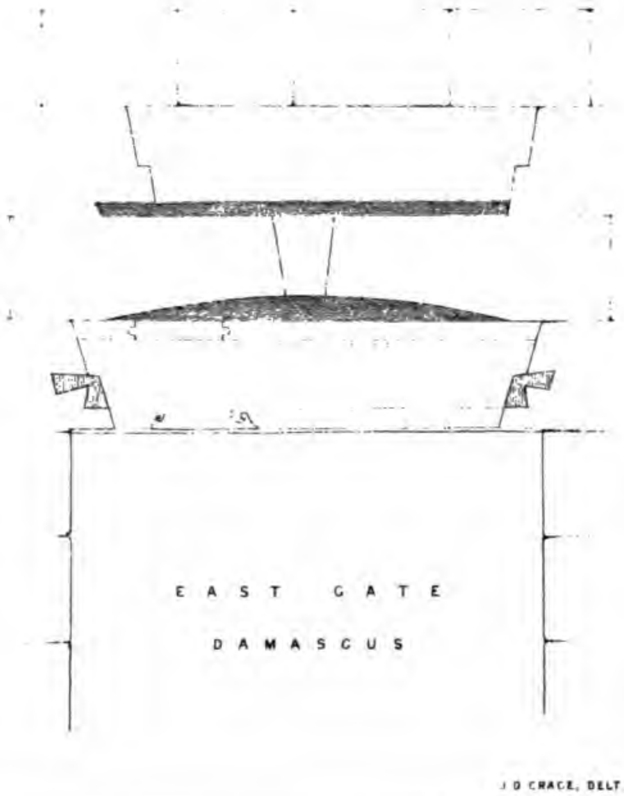
PLAN OF PENDENTIVE

SHAPED WINDOW OPENINGS



HUNIN

RELIEVED LINTEL.



EAST GATE

DAMASCUS

J. D. CRACE, DELT.

Lithogd for the R I B A by Kell Bros London. E. C.

Occasionally, however, the cupola is far more richly decorated. That of the "Kubbet el Fedaweeyeh has a bold and elaborate Moresque diaper in relief, the face of the ornament almost entirely gilt, whilst the grounds enclosed by the leading lines of the ornament are coloured, blue, red, green and white. The whole is most rich in effect; although, unfortunately, the building is in a very ruinous state. As it is a fine example of the "Kubbet," I will continue a description of its interior ornamentation.

Below the cupola windows is the usual frieze of writing, on red ground, under which runs an Arabic fret border. From this line the pendentives commence, and the construction of these is very uncommon. Across each angle of the square is thrown a plain pointed arch, the apex of which meets the ring of the dome. The archivolt is in red, white, and black stones. The curved face of the pendentive is decorated with flat relief arabesque in stucco; light on a coloured ground; as also are all the plain wall faces in the same story. The alcove, which is recessed to the angle, is the remarkable part of the pendentive, being constructed on the system of fan-vaulting and meeting in an octagonal alcove. This can only be made clear by a reference to the diagram (Pl. 2). Another fret border or string course is carried round the building from the springing of the pendentives—the pointed windows in the angles breaking it—whilst those in the lunettes range above it. The walls of the next lower story are very ruinous, but seem to have been nearly plain, with a dado of marbles inlaid in narrow upright panels—possibly the wall was lined with tiles, or painted with coloured designs; but this is only surmise.

The flat ceilings, whether of Mosques or other public or private buildings, are treated, without distinction, in one of two or three ways. The handsomest, producing the richest effect, is the beam and panel arrangement already described, which seems to have prevailed largely in mosque, sebeel, or dwelling. The finest examples are to be met with in the "Moäiud," "Mahmoudie," and "Kaidbai" mosques; in some of the older sebeels; and in the houses "of the Sheikh, of the Mufti," and "Ebn e' Sadäd," both before referred to. There are, however, many others in the older private houses, but they are difficult to find out and not easy of access, great numbers of the older houses having been destroyed during the last few years.

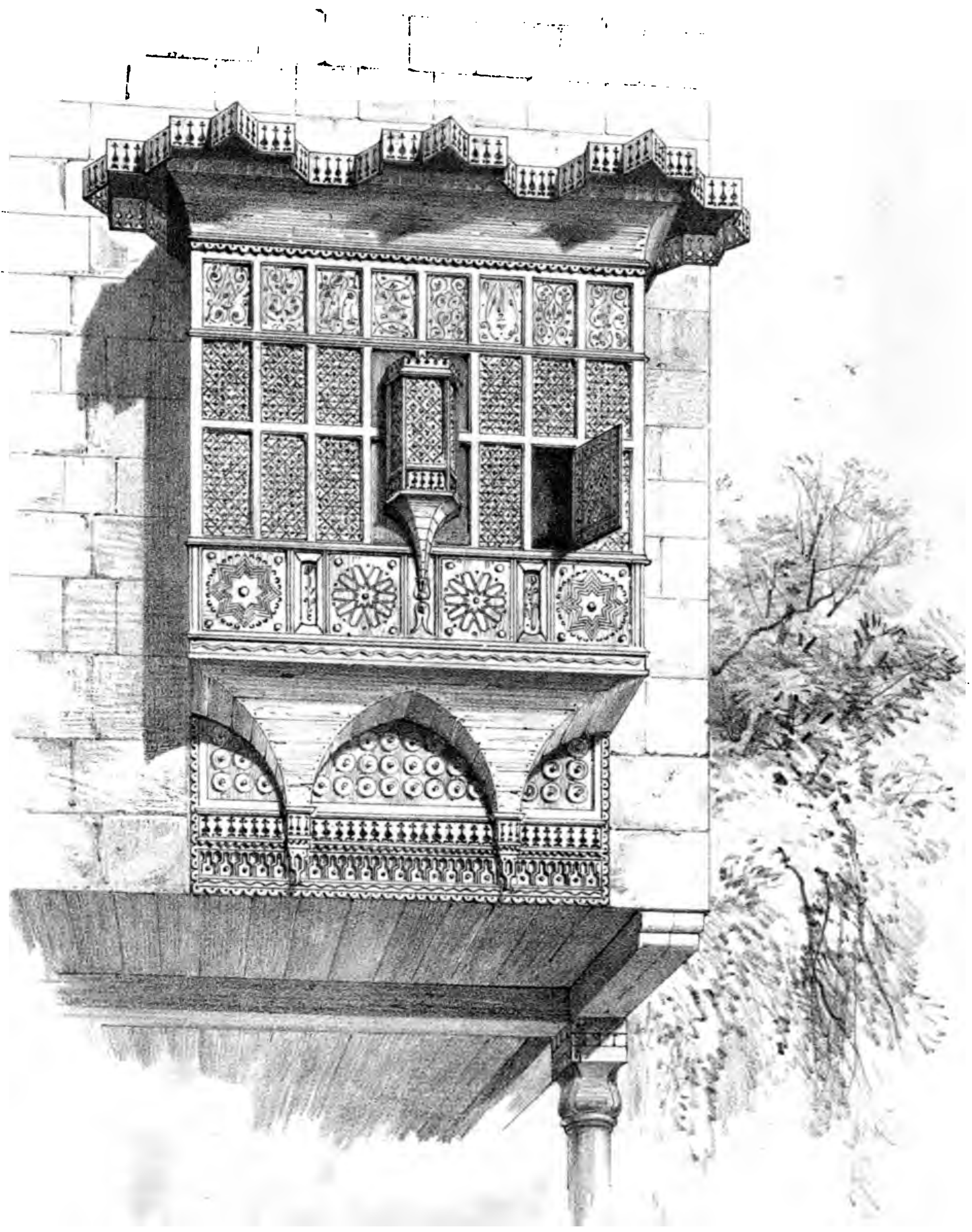
A simpler form of ceiling is that formed by "beam and match boarding." Here the boarding is probably placed diagonally, and the narrow boards are painted successively in various colours, with perhaps a running pattern of conventional flower ornament, or arabesque, on each—the beam being elaborately decorated (as in an example at Damascus); or the beam is decorated with rich diaper or geometrical pattern, and the boarding painted in panels without the division of framing. (Mosque of Mohammed Ganim, Cairo).

The flat ceilings, in which the beams do not show, but which are divided by small mouldings into elaborate geometrical panels, more or less decorated in colour, are of great variety. As I have already incidentally mentioned, they occur in buildings of all descriptions, and are used both internally, as the ceilings of rooms, and externally, in the soffits of the "Mushrebeeyehs" or other wooden structures. Occasionally these are elaborated and enriched by bold pendants marking the central points of the device; and in some instances this system is combined with the beam treatment, as in the entrance corridor to the old "Morostan" at Cairo. There we find the ends of the beams cased, and ornament is carved on the casing. In the same place is a good specimen of wooden cornice formed of a series of polygonal pendentives—a style of cornice to be met with both in Cairo and Damascus (House of Assad Pacha). The most frequent form of interior cornice, in large buildings, is the bold hollow or cove which is divided by coloured decoration into ornamental panels, with rich borders. Korán sentences, in white and gold, on rich blue grounds, are often introduced in these panels, the surrounding colouring being in more subdued tones, and the top and bottom lines of the whole cornice being strongly marked with black and white, bright red, or other vigorous colours.

Below the cornice is usually a frieze, almost always of writing. How beautifully the Arabic character lends itself to ornamental purposes is well known. Probably in no other style of art has writing been so largely used for this end. For, whether externally or internally, wherever there is a frieze in an Arabic building, it consists of writing. Beautiful effects are produced by intermingling the character with delicate scroll-work, the latter being gilt and the writing white, both on a blue ground, as in the "Mahmoudieh" mosque at Cairo. And the writing itself is often wrought into ornamental monograms, whole sentences being so entwined as to be difficult, even for the expert, to decipher. The same use of writing extends to every object in which Arabic ornamental art is expended. Witness their metal vessels, in which the whole surface is frequently covered with inscriptions. The practice doubtless originates in the preclusion of the representation of animal life; the instinct of the artist to appeal, in some direct way, to the understanding and sympathy of the beholder being too natural and too strong to be altogether repressed.

I have already alluded to the use of coloured marble inlay, and tiles for the internal wall decoration. At Damascus the taste for mosaic decoration was evidently very strong, much more so than at Cairo; and the examples of real and imitation mosaic are of untold variety. A mosaic of geometric or other ornament, cut perhaps a quarter of an inch deep in the stone, and filled with hard cement of various colours—black, red, blue or yellow—was also in extensive use with very excellent effect. I must also notice that, at Damascus, interior coloured decoration, of essentially *Persian* character, exists in considerable quantity. Here the walls are divided into panels by bands of rich colour, the ornament being in slight relief, and gilt or silvered. But this is late, and cannot be considered as pure Arabic work. There is another branch of interior ornamental work, which is of infinite variety, and deserves much study. I have already remarked that wood, as a material, must be considered scarce in the region of Arabic architecture. Not only this, but a climate of extreme dryness and extreme temperatures makes its use, in large sizes, difficult or undesirable. Probably, from these causes, all Arabic woodwork is made up of a number of small parts, framing and panels, ingeniously wrought into every variety of rectilineal form and design. (Fig. 14). Doors, panels, window shutters, cupboards—all are made after this fashion; and no two seem to be alike. I agree with those who consider that to this system of woodwork may be traced the wonderful variety of geometric design applied to all materials by the Arabs and Moors. A workman at Damascus, who made for me the panels which I exhibit for your inspection, showed me a scroll in his possession, containing about two hundred traditional designs of rectilinear geometrical forms for wooden panelling. This panelling usually has the narrow framing moulded, and the panels bevelled at the edge. The panels are sometimes left plain, sometimes are painted; but they are also, as you see, occasionally inlaid with ivory or pearl.

The richest specimens, and those most elaborately worked, are also, as I believe, the oldest. These are the screens in the Coptic Churches of "Fostát," or "Old Cairo." In some of these the wooden panels are delicately and minutely carved; in others the panels are inlaid with ivory as ornament; or again the ivory, let in, is itself carved in elaborate arabesques. Even the full-sized drawings which I show of these screens give but an imperfect idea of the minuteness and delicacy of the work; and it must be borne in mind that each panel, and each straight piece of framing, is a distinct piece of wood; and that, moreover, in the original, each screen contains several superficial yards of such work. This style of wood-work is now almost extinct. A few workmen, and only a few, are still to be found at Damascus, where, in the richer houses, there is yet a limited demand for it; but it is no longer in general use. The pretty and characteristic furniture, inlaid with pearl, is still found in Arab households; but all Arab art virtually belongs to the past. It is rapidly being pushed aside by the garish and tawdry products and tastes of Southern Europe.



A 'MUSHREBEEYEH'_ CAIRO.

J. D. Crace, 1869.

Lithog^d for The R. I. B. A by Kell Bro^s London. E C

It is melancholy to feel that almost every example I have quoted is a portion of a ruin, or is shortly doomed to ruin by those sure destroyers—neglect, apathy and selfishness. Monuments worthy of world-wide fame are dropping to pieces, either by utter disregard, or by dishonesty, or by the mildew of a fatalism which *never repairs.* Enquiring once of the Imám, or priest of a mosque, why, since a devout man had built so beautiful a structure to the glory of God, no good man was found to keep it in repair, I received this reply—" Truly he was a good man who built this place for the worship of God; " but it now belongs to God, and, if He wills it so, it will surely crumble and fall. It is as God pleases ! "

Such is the Mohammedanism of to-day. We may well look around and ask these ruins if it was such when they were in their splendour. Did they who built them look for this? Was he, who, from the Mosque of Tooloon—just a thousand years ago—called the faithful to prayer, even such an one as the blind Mueddin, who, to-day, from the crumbling minaret, sends a wailing voice over the city as he cries (sadly, as it seems,) " God is most great! There is no deity but God! Mohammed is God's Apostle. Come to prayer—come to security! There is no deity but God alone! " ?

Sir M. DIGBY WYATT, Fellow, (responding to the Chairman's invitation), said: If the paper we have heard to-night, and the drawings illustrating it, evidencing as they do artistic powers of the highest description, are results of the convalescence of an invalid, I am afraid it reflects a sad reproach upon many of us who are strong and active. I would venture to compliment Mr. Crace alike upon the zeal, ability and energy with which he has collected this mass of information for our instruction and gratification, and for having brought it so agreeably before us this evening. It is too early yet to propose that vote of thanks to him which I am sure some other speaker, no less pleased with his discourse than I am, will be willing and zealous to do by-and-bye; but I cannot refrain now from proffering an expression of my gratitude to him personally for bringing forward so much of novelty and interest to us all. The subject which Mr. Crace has so well treated is a deeply interesting one under several aspects. In the first place, it is highly interesting to us from its relation to the development of style, and its connection with the history of a great family of the human race, under peculiar conditions of faith and social relations. I need scarcely remind you that the germs of the Arabian technical and ornamental arts are to be found in those of the Byzantine empire, to which they had for the most part descended from the decaying Roman empire. If there is anything in Mr. Crace's admirable paper to which any one could take exception—a cavilling in which, indeed, it would be almost wrong to indulge—it might possibly be that the speaker's notice of the history of Arabian art scarcely sufficiently carried us back to the stock upon which it was engrafted. The victorious arms of the Prophet and his immediate followers speedily carried Islamism over vast tracts of country, upon many of which technical and decorative arts had long been cultivated with signal success. Hence the peculiar conventional character with which the Arabians so early stamped the eclecticism arising from the junction effected at Byzantium, in Asia Minor, Africa, and Spain, between the Orientalism of Persian and Indian arts, (as they existed before the Hegira), and the classical type traditional amongst artists and workmen trained on the system of Imperial Rome. I have myself had occasion to point out in this room the intimate connection which existed between the Persians and Justinian, and its influence on Byzantine art. The peace which was concluded between Justinian and Chosroes Nushirvan was one that was " to last for ever," according to the terms of the treaty; and Persian architects were largely employed by Justinian. Thus we see in the details of St. Sophia an evident departure from both the technicalities and the principles which characterised the old Roman works, and a certain marked anticipation of some of those changes of form and predilection for inlay and surface decoration in structure which were afterwards manifested to a great extent in the works of the Arabs. I wish very much that my friend Mr. Owen Jones could have been present to-night. I went to him yesterday and urged him to come here, and add to our common stock of knowledge on this interesting subject, as he could do so much better than I can. To have done so would certainly have been a labour of love with him, as well as an opportunity of showing that profound acquaintance with the principles as well as the practice of the Moors and Arabs which distinguishes him, and which has so long rendered him the true "propagator of the artistic faith" of the Prophet, and our best interpreter of the mysteries of the interesting style under discussion; but, unfortunately, Mr. Jones was prevented by the state of his health from attending to to-night. I think that is much to be regretted, because he could have so well "pointed the moral" of much of which Mr. Crace "has adorned the tale." The second aspect under which this subject is interesting to us as practical professional men,—students at least, if not masters, of the handicrafts we control,—is the technical basis of this style. This it was which made it vigorous from its earliest date, and has imparted to it the perfection of execution which always characterised it. From first to last it has exhibited the skilful workman compelled to do his best unflinchingly, and obviously to please a master, jealous of good works, who would put up with no half-hearted service. Every artizan, whatever may have been his specialty, engaged on the great works described by Mr. Crace, was a master of his craft, who carried out his work in subservience to the methods and best traditions of his trade, keeping closely to every characteristic of design and workmanship which the materials he used demanded, and which the tools and processes at his command best enabled him to execute. From his intelligence as an operative, his enlightened ideas as a designer, and the perfection which the revival by the Arabian mathematicians speedily effected of the study of geometrical form (which had been carried so far by the ancient Greeks), enabled him to bring to bear upon his special branch of industry, he was speedily in a situation to originate new features in his business, and to make the old ones far more beautiful than they had previously been. Thus in carpentry and joinery, from the very dawn of technical Arabian art, we may observe a clear recognition of the best mode of combining and contrasting both in form and colour, all the various woods which appeared to be at command. Not only was this the case with woods, but we find the same intelligent use of other materials in all the architectural works of the Mahommedans. I differ a little from my friend Mr. Owen Jones in what he has remarked with regard to the place and period in which Arabian architecture was most highly perfected. No doubt it is to be recognised in the earlier portions of the Alhambra, as having attained a thoroughly concreted system, in which, as in perfect Grecian architecture, every part had its definite form and dimension allotted to it, without confusion, and with such true and absolutely mathematical design and setting out as to preclude the possibility of the occurrence of a pattern geometrically inaccurate, or one which does not complete itself in all its parts and repetitions. We find this development of completeness in the Alhambra in its extremest complication, but we find it no less complete, though in a simpler form, in the earlier works at Cairo, such as those of the Mosque Tooloun, and in the Meschita at Cordoba. At the same time we find it associated with better ideas of structure in the technical simplicity of the primitive Arabian system, and in the clear expression of function in every architectural member. Certainly in the Alhambra, with which I am myself better acquainted than with the monuments of the Khalifate, we find the overlaying of the stucco and coloured decoration has to a certain extent hidden the structure itself; and beautiful as this overlaying certainly is, and perfectly as it has been made to harmonise with all of structure which is allowed to remain visible, it generally, to my eye at least, obscures too much. In earlier works, both of the Arabs and Moors, a principle of simple masonic construction is always indicated, and the stone is never overlaid by the plaster, nor is the eye misled by the inlays into confusion as to the system of jointing. In thus dwelling upon the beauty of Arabian masonry, I would not be understood for a moment as depreciating the plaster work (as such) of the whole range of Mahommedan design, from the days of Ebn Touloun to those of Boabdil el Chico, since during all the many centuries intervening between the reigns of those sovereigns we find, in stucco, admirable hand-worked patterns, executed with a precision and force at least equal to those we meet with in the works of ancient Rome itself. There is one more aspect under which this subject is interesting to us. In the present day there exists on all hands great desire for novelty in the main features of design, as well as in the decoration of buildings. I believe that legitimate novelty in this direction is not to be obtained by a mixing up of styles, or by confusing them together ; it is rather to be found in the development in new directions of technical arts, which, if they have not already done so, may in the future be made to minister to the operations of building and decorating. It was by " developing " in this direction that the Arabians found strength, novelty, and completeness of style, and as they did so may we do. When I look at these tiles on the table, I see one direction at least in which we have been for some time so following an Oriental lead, and I note in them a very legitimate and excellent form of decoration, calculated, I think, to effect a great change in the aspect both of our exterior and interior architecture. I know it has, to some extent, done so already, and I believe it will do so yet more. I see also in this variety of Arabian woodwork, involving an apparently very intricate, though really simple, combination of different patterns, nothing which any skilled workman with the least desire to do, what has been so well done, and what seems so thoroughly congenial with a just idea of good joiners' work, would not be able to do perfectly in this country at the present day. When one looks at the rude materials and processes by which elaborate and beautiful works were carried out in almost every technical art by the Arabians, it is difficult to imagine why the same good work should not be designed by us architects, and wrought by our artificers, who should learn to take a pride in their calling, and be honoured in proportion to their merit in it, as the Arabian workmen were. All that is wanting is that the same simple taste, good judgment, and technical energy should be bestowed upon our designs, and upon our works. Men are yet to be found in India and Persia, in Cairo, and even in Spain, who, in some degree, retain the theory and practice of the most ancient Arabian tradition. I myself saw in Granada, only a few months ago, a man working with a lathe of the kind described by Mr. Crace. The only difference was, that the lathe I saw consisted of a long iron bar, with "gudgeons" sliding on it, and capable of being fixed by screws at any distance apart. Between these gudgeons a piece of wood was so held as to be capable of gyration, with the least possible amount of friction. The workman sat down with this in front of him, and kept it working with a bow, similar to that constantly used by Indian turners, which twirled the wood round rapidly on the iron gudgeons. This he did with his left hand, while with the right hand he steadied himself, changed his cutting tools, and measured from time to time the gauge of the work he was doing. For what right hands usually do with ordinary lathes, he substituted his right foot, which exhibited, an elongated great toe just like a thumb, and a metatarsal development such as I never saw before. He held the chisel tightly between the great and second toe, and seemed to use his foot just as easily as we ordinarily use our hands. It was curious to find at Granada such a retention of the simple machinery and method by which it is probable that the Moors executed the bulk of their larger ornamentations in wood, dependent upon the lathe for the fashioning of their leading forms. I trust I may be permitted to allude to one more point before I sit down ; and that is, the opportunity for surface decoration which was afforded by the large wall surfaces in which the Orientals have always delighted, and by their simple arch soffits and vaults, rarely cut up by moulded work or chamferings. I cannot help thinking that these remarkable " reversible" patterns which we see here, and the effect of which is invariably excellent, were probably originally due to the desire to economise labour and cost, by making one piece of material serve, by counterchanging and interchanging the parts into which it was cut, to produce patterns in different coloured materials without the waste of any portion of material. At the same time I cannot but consider that, speaking theoretically, patterns so formed appear to be in strict compliance with that which was, and should be always felt to be, a bounden duty to carry out in coloured decoration, viz., equalisation of superficial areas of contrasting colours in the design of patterns intended to convey a sense of tranquil beauty. The principle was no less important when the contrast was intended to be effected by *chiaroscuro* only or by variety of materials than it was when the effect was intended to be produced by contrasting colours. Equalization was demanded of the light and dark shades. It is such regular balance which keeps ornamentation quiet, and which gives to it its dominant aspect of repose. Balance, it should always be remembered, is just as essential to repose in decoration, as equilibrium is to security, and its appearance to a sense of security, in structure.

Mr. W. BURGES, Fellow.—May I ask one question of Mr. Crace, and that is whether the colours in these decorated buildings are simply primitive colours, or whether secondary and tertiary tints were used?

Mr. CRACE.—With reference to the colours, the primary colours were used largely, but the secondary and tertiary colours are also used. In the instance to which I have referred of a panelled ceiling, it is common to find the sides of the beams,—in fact, I think one or two of the coloured examples will show that,—the sides of the beams are coloured with maroon or a tertiary red, not a positive red. In the same way greens are employed; but I may observe that the more varied the tones of colour employed, the later is the date of the decoration. In the earlier buildings the more positive tones are employed, but broken in that case by black and white in large quantity, the red, blue and gold being used to give point and precision to the ornamentation. The red would in that case be vermilion; the blue, cobalt or ultramarine; and gold would represent the yellow of the scale.

Mr. BURGES.—I think these drawings are so valuable, and they teach us so much, that I hope Mr. Crace may be induced to allow them to remain in the room for several days longer; and I venture to express a hope that some of them will be given with the printed Paper, more especially those showing the treatment of the ceilings and doorways. A few woodcuts of such subjects would add very considerably to the value of the Paper; as the object of the author has evidently been not so much to give us a history of Arab Architecture (for we can learn that from books) as to tell us how we may improve our architectural decorations. Another thing which deserves notice is that this sort of work is allied, in some respects, to that of the thirteenth century in Europe. No doubt, during these times, we had great importations from the East, and in the decoration of the Gothic houses of the present day I should imagine this style of decoration is peculiarly adaptable; thus instead of having all our doors of the usual description, we might have a few with panels like those we have now before us. I should be glad to hear whether these panels are very costly.

Mr. CRACE.—They are expensive, as everything of that kind is in Damascus. I am afraid I have not the same opinion of Arab mercantile transactions that I have of their architecture. Every mercantile transaction is always the subject of a good deal of bargaining. It generally begins by two persons opening the market at opposite ends, and at last they make a compromise. In the case of these panels, the compromise at Damascus would come to something like £4. or £5. per panel, perhaps about thirty to forty shillings per square foot, according to the elaboration of the design. In England I think they would be very costly; more especially when we consider that under the Trades' Union regulations every separate mitre would represent a sum of money. I have never submitted the question as yet to a British workman; but I should say that if you could persuade some one to work for you, alone and under cover, you might possibly get these panels made at from £ 5. to £ 10. each, without the inlay; but in any ordinary London workshop they would cost vastly more.

Mr. T. **MORRIS**, Associate, asked if the pattern was cut out of a solid piece of board.

Mr. **CRACE**.—No; each figure of the panel is a distinct piece of wood. This will be seen on looking at the back of the panel.

Sir **DIGBY WYATT** stated that four panels of similar workmanship to these, which he designed for the state railway carriage of the Pasha of Egypt, the size of the panels being about 6 feet by 4 feet, the cost of the four panels was a little under £500., and they were considered cheap.

Professor **KERR**, Fellow.—I have great pleasure in rising to propose a vote of thanks to Mr. Crace for his paper. I think we have reason to congratulate ourselves that Sir Digby Wyatt postponed that duty, inasmuch as it gave him the opportunity of offering those highly interesting remarks with which he has favoured us, and of rendering good service in the discussion of this really interesting subject.

Mr. **PHÈNÉ SPIERS**, Associate.—I have great pleasure in seconding the proposition of thanks to Mr. Crace, and in doing so, to bear testimony not only to the remarkable accuracy of his drawings, but also to the excellent choice of subjects he had made for illustration; inasmuch as they represent nearly every point that one would wish to bring forward, in order to give a general idea of Arab decoration. There is one point partially alluded to by Sir Digby Wyatt, viz. the great power which the Arab architect seems to have acquired almost from the first in constructural features. Mr. Crace has alluded to the Mosque of Tooloon as one of the earliest instances in which the pointed arch is found. It is, however, generally allowed that the Mosque of Amrou, in Fostat, or old Cairo, and which dates from the first fifty years of the Hegira, is one on which all the features of the Arab arch are foreshadowed. You have on one side of the mosque circular-headed arches, that being the first form of arch employed; on a second side slightly pointed arches; and on the other two pointed and slightly horse-shoe arches. You also find there that curious introduction of wooden ties to the arches to which Mr. Crace has alluded, of which he has given an illustration from another mosque. One recognises at once the necessity of these cross pieces of wood, and I was astonished to find they were objected to by some of those who saw them in my drawing; but I should imagine that the chief reason for their adoption was because in a country subject to visitations of earthquakes, it was the more secure way of supporting the arches, and far better than buttresses, which were rarely employed. I may say that though this form of construction seems strange to us, yet, after a little time, one does not notice its existence; and the general effect of a range of arcades is not interfered with by the ties. Becoming from the first perfect masters of construction, the Arabs seem to have played as it were with the decoration of constructive feature. In the elaborate decorations of the voussoirs of their doorways, they play with constructive features. You see this again in the decorations of the pendentives of the circular and the square niches. The first forms they chose were those handed down by Greek architects in the series of domes or small barrel-vaulting. They cut these up into a series of smaller barrel vaults, or coves. In the case of the gateway of Damascus, there is a still further development of this style of decoration. We find the second phase of this kind of decoration, the upper portion of the arch is left simple, and the lower is divided into a series of semi-domes, to which we give the name of stalactitic vaulting. Again, it is curious to notice the simple principles in the design of the geometrical figures which the wooden panel before us contains. One of the chief elements of that decoration consists of a figure composed of ten branches, with double lines intersecting. This figure gives the cue to all the rest. The distance of these circles of twelve radiate from one another, giving all the remaining features; in fact, on a slight analysis of the principles of design in Arab decoration, we are surprised to find its simplicity. I beg very cordially to second the vote of thanks, and also to express my personal acknowledgments to Mr. Crace for the amount of time and great care he has expended upon the preparation of the paper, and the beautiful drawings by which it is illustrated.

Mr. **Crace**, in reply to the Chairman, expressed his willingness to allow the drawings to remain some days for inspection.

The **Chairman**, in putting the vote of thanks, said, I will not occupy your time with any observations further than to add my tribute of admiration both of the matter contained in the paper, and the beautiful collection of drawings exhibited. There is one fact of a practical nature which I may mention. I recollect our ingenious neighbours the French in their last Exhibition had in one of their houses a large collection of these trellis panels; and I was not aware that this kind of work was so expensive as has been mentioned to-night.

The vote of thanks to Mr. Crace was then unanimously adopted, and the meeting adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, 14th February, 1870, JOSEPH CLARKE, V.P., in the Chair, the following Paper was read:—

A SUMMARY OF MR. RUSKIN'S EARLIER ARCHITECTURAL CRITICISM,

By ELIJAH HOOLE, Associate.

AS Mr. Ruskin's architectural theories have been given to the world for twenty years, and have, during that time been constantly discussed and reviewed, no great amount of novelty attaches to the subject of this paper, neither are the views expressed in it advanced without the greatest deference to the experience and judgment of the Members of the Institute, whose extended range of research and practice will enable them to correct the misapprehensions and to point out any errors which may chance to be advanced as truths.

It seems certain that until architects are agreed as to the principles of their art no concerted action or real progress can be counted on. Mr. Ruskin has delivered a canon of criticism, which not only aims at the settlement of those principles, but which is intended to enable every reader to distinguish good architecture from bad, and to constrain not merely architects, but all classes of the community, to cultivate the one and to extinguish the other.

Now if this could be done, if the principles of our art could be clearly laid down and thus extensively diffused, a great stride would unquestionably have been taken towards raising our art to its proper position, and towards establishing and maintaining a just and intelligent criticism of all architectural works, both past and present.

But Mr. Ruskin has to a great extent succeeded in making his readers critics. His own enthusiasm, his mastery of language, and his elegant and poetic style, take a strong hold upon almost all readers, independently of their possessing any previous feeling for art; and these, together with his sympathy with all earnest and genuine work, and his delicate perception of the beautiful, have enabled him, by his writings, to do more to make architecture popular than perhaps any one author has ever done. We, as a profession, are greatly indebted to Mr. Ruskin for calling the attention of all the reading world to the subject, and for insisting so strongly as he has done upon its dignity and importance. And this must be the case to a very great extent even to those of us who do not feel disposed to endorse his theories. But as a large number of persons form their opinions upon architecture, either partially or wholly, according to these laws of criticism, an architect is likely to be frequently confronted with them in the course of his practice, and should either be prepared to adopt them or to give valid reasons for rejecting them. The subject, therefore, has a practical as a well as a speculative aspect.

Mr. Ruskin's success in popularizing architectural knowledge makes one indulge a hope that one day the principles of architectural art will be put into definite and authoritative form by architects themselves, and that they will be universally understood, not only by those occupied in reducing them to practice, but by every educated person.

As the limits to which this paper is necessarily confined are too small to allow even a passing glance at the whole of Mr. Ruskin's published opinions upon architecture, those contained in 'Modern Painters' and in 'The Seven Lamps of Architecture' will alone be referred to at present.

What is architecture? Uselessness is its distinguishing characteristic, says Mr. Ruskin. You build a sea-wall to keep out the tide—that is not architecture, it is only building, for it is useful; but make one course of the masonry project, and carve it into a cable moulding, which is useless, and then you have architecture. In other words, architecture consists in the disposition and adornment of edifices raised for any purpose whatever. The distinction between architecture and building being thus defined, their connection is then very clearly pointed out. "There cannot be any architecture which is not based upon building, nor any good architecture which is not based upon good building, but . . . . . . Architecture concerns itself only with those characters of an edifice which are above and beyond its common use."

Discarding, for the sake of brevity, but not without some regret, Mr. Ruskin's poetical nomenclature, we next find him distinguishing the leading principles which govern and animate the art, and which are to be traced in all real architecture, since they are "based upon man's nature, not upon his knowledge," and "possess so far the unchangeableness of the one as that neither the increase nor imperfection of the other may be able to assault or invalidate them."

The first principle laid down applies chiefly to devotional art, and is best defined as the opposite of the prevalent feeling of modern times, which desires to produce the largest results at the least cost. For instance, "of two marbles equally beautiful, applicable, and durable," it would prompt to the choice of "the more costly, because it was so, and to the choice of the more elaborate of two kinds of decoration equally effective, for the same reason." The justice of this principle rests upon our answer to the question whether God can be honoured by the presentation to Him of any material objects of value, or by any direction of zeal and wisdom which is not immediately beneficial to men? Feeling, conscience, and reason, Mr. Ruskin admits, would answer this question in the negative, but he believes that he finds an affirmative answer in the costliness and splendour of the Jewish tabernacle and temple. His argument on this point is far from convincing, but is followed by a very just and powerfully drawn contrast between modern domestic and ecclesiastical architecture, decoration, and furniture—the luxury of the one, and the bareness and meanness of the other. "The tenth part of the expense which is sacrificed in unnoticed fineries or formalities, cornicing of ceilings, graining of doors, fringing of curtains, and thousands such things which have become apathetically habitual, would, if collectively offered and wisely employed, build a marble church for every town in England." Two conditions are deduced from the principle just laid down. One, that all materials and workmanship should be the best of their kind, whether the material be marble or brick—whether the sculpture be the carving of a Flaxman, or rude as Norman hatchet work. The other condition is that the appearance of labour upon an architectural work is of the highest value. While labour cannot be carelessly or idly bestowed without offending the eye and producing a painful effect, so where credit is given for it in the mind of the spectator, as in the sculpture of the backs of statues in a pediment, or in the working out of ornaments in dark or concealed places, it cannot be withdrawn without deception. While delicate ornament may be placed near the eye, and bolder and rougher work at a distance from it, yet if any kind is to be both near and far off, it should be as boldly and rudely cut where it is well seen as when it is distant. Ornament deserves its name only when its points of light and shade tell in the general effect, but if generally seen it be "a mere incrustation and meaningless roughness, we shall only be chagrined by finding, when we look close, that it has cost years of labour and has millions of figures and histories in it." The Northern Gothic never loses sight of the architectural purpose of ornament, never fails in its decorative power; not a leaflet in it but speaks, and speaks far off, too, and so long as this is the case there is no limit to the luxuriance in which such work may legitimately and nobly be bestowed.

Truth is the second leading principle insisted on. Poetry and painting involve no violations of truth, even in their most imaginative creations, and when violations of truth occur in these arts they are for the most part confined to the treatment of their subjects. Less subtle and more contemptible violations of truth are possible in architecture, in direct falsity of assertion respecting the nature of material or the quantity of labour. Admitted in thoughtlessness they produce fatal effects upon art. "The meagreness of poverty may be pardoned, the sternness of utility respected, but what is there but scorn for the meanness of deception." Architectural deceits may be divided into false suggestions of construction; deceptive representations of material or of sculptured decorations; and the use of cast or machine-made ornament. But certain degrees of each of these are admissible, since when the mind is informed beyond the possibility of mistake as to the true nature of things the affecting it with a contrary impression, however distinct, is no dishonesty, but is, on the contrary, a legitimate appeal to the imagination. Thus the pillars of the apse of Beauvais Cathedral, though too slight to carry the weight placed upon them without assistance from the unseen external flying buttresses are not deceptive, since the greatness of the weight is as unperceived as the means of its partial support, and sufficient support for the apparent weight is provided in them. But nothing can be worse, either as judged by the taste or the conscience than affectedly inadequate supports, suspensions in air, and other such tricks and vanities; and Mr. Hope wisely reprehends for this reason the arrangement of the main piers of St. Sophia at Constantinople. Deceptive assumptions of structure, such as Flamboyant flying buttresses, pierced and curved till all strength is lost, are still more blameable, and are to the serene constructions of early Gothic what the Greek ghost was to the armed and living frame. The use of iron is a fruitful source of attenuated construction, and although it is difficult to say abstractedly why iron should not be used as well as any other material, yet since by all past practice and by all present association architectural laws are limited to the use of clay, stone, or wood, a new system of such laws must be developed before metallic construction can attain an equal dignity. Iron can be used as a cement but not as a support, as a tie but not as a pillar or a girder, without loss of masculine character and scientific power. Dovetailing and other adjustments of stones should rather be adopted. A voluntary submission to self-imposed laws (shown in nature, for example, by the formation of the bones of the elephant from lime rather than from adamant) really displays greater power in overcoming difficulties than if the limitation were not accepted.

The evil of surface deceits consists in attempted mendacity, as in graining or marbling; or on a larger scale the painting of deceptive relief, as, for instance, on the roof of Milan Cathedral. This is to be distinguished from the architectural designs mingled with the figures which are painted on the roof of the Sistine Chapel, and which, stopping short of the vulgar force of deceit, are in such grand fellowship with the figures as to increase their dignity. So Correggio at Parma has made the interior of a dome some 30 feet diameter look like a cloud-rapt opening in the seventh heaven, without deception, for the subject precludes it.

To conceal material by painting, or even by whitewash, is not wrong when no deceit is attempted. Gilding is equally innocent, though it may be used too lavishly, Incrustation of brick buildings with marble, so constant in the great periods, is to be regarded as mosaic upon a large scale, and no more a deception than gilding, the value of the material preventing any mistake. But both external painting and all other modes of decoration are essentially unarchitectural, which tend to divide the work into two kinds, one of which is more perishable than the other, and in time dies away from it, leaving it naked and bare, unless it have noble, enduring qualities of its own. For this reason all the natural colours of stone and those of mosaic should be had recourse to before external colouring is employed. "The transparent alabasters of San Miniato and the mosaics of St. Marks are more warmly filled and more brightly touched by every return of morning and evening rays, while the hues of our cathedrals have died away like the iris out of the cloud, and the temples whose azure and purple once flamed above the Grecian promontories stand in their faded whiteness, like the snows which the sunset has left cold."

But cast or machine-made ornament is the meanest and most dishonest of all deceptions, because the least necessary. It endeavours to appropriate to itself the interest with which we regard hand-work, and, like a false jewel, is contemptible in proportion to its success. Moulded brick, terra-cotta, tile and porcelain are exceptions, since they will never be mistaken for carving. "It is not the material (of which a thing is composed), but the absence of human labour, which makes a thing worthless, and a piece of terra-cotta or of plaster of Paris wrought by the human hand is worth all the stone in Carrara cut by machinery."

A more subtle and dexterous system of deception is exhibited in the intersectional mouldings of the Flamboyant period, which for the sake of exhibiting the skill of the stone-cutter were elaborated into the most complicated and fantastic forms. The earliest traceries consisted of penetrations in the shield of stone forming the window head, the openings and not the intermediate spaces of stone receiving the most attention. Then these intermediate spaces caught the eye of the architect, and a pause ensued during which both received equal thought. At last the bars prevailed. They soon became thin, apparently flexible and penetrable by one another. They were intersected, re-duplicated, and cut off arbitrarily. Occasions were made for exhibiting these peculiarities, resulting in the destruction of the capitals of the shafts, in the adoption of "the flattened arch, the shrunken pillar, the lifeless ornament, the liny moulding, and at last in the fall of the great dynasty of mediæval architecture, which could not again arise from the ruins of its own violated truth."

Power is the next principle discussed. Two broad divisions of it are marked out, one showing man as able to gather and select beauty from nature, and the other exhibiting him as arranging and governing material forces. The expression of abstract power is seldom aimed at by architects, and can only be attained by a recognition of the sympathy in the forms of noble building with what is most sublime in natural things. "The grey cliff loses not its nobleness when it reminds us of some cyclopean waste of mural stone; the pinnacles of the rocky promontory arrange themselves undegraded into fantastic semblances of fortress towers, and Nature herself does not disdain to accept power and majesty transferred by association from the works of man." The architect cannot contend in pitched battle in emulating the sublimity of natural objects. It would not be well to build pyramids in the valley of Chamouni, and St. Peter's would gain vastly had it been placed on a plain like that of Marengo or on a site like that of the Superga at Turin or La Salute at Venice. The apprehension of size depends more upon the excitement of the imagination than on measurements by the eye. Few rocks even among the Alps have a clear vertical fall as high as the choir of Beauvais, and if we secure a good precipice of wall or a sheer and unbroken flank of tower, and place them where there are no enormous natural features to oppose them, we shall feel in them no want of sublimity in size. Mere size will not ennoble a mean design, but every increase of magnitude will bestow a certain degree of nobleness upon it. It is well, therefore, to determine at first whether a building to be designed is to be markedly beautiful or markedly sublime, and to ascertain whether the lowest degree of magnitude at which sublimity begins—that which will make a living figure look less than life beside it—can be reached. Few buildings of any pretension to size look as large as they really are, as is proved by the appearance of a figure in any distant and especially in any upper part. Magnitude may be best displayed in buildings by bounding them with continuous lines, and by keeping the extreme points all in sight at once. Majesty will be lost by breaking the boundary line too violently; by concealing much of the building, as in the well-known case of the recession of the dome of St. Peter's, or in churches generally, in which the highest positions are at the intersection of the nave and transepts. Such designs may often have pre-eminence in symmetry and feeling, but a detached campanile or even a low western tower would make the height much more apparent. Imagine the loss to the Lombard churches if their campaniles were carried to their present height above their crossings. For the boundary line from base to coping for either wall or tower, Mr. Ruskin loves the true vertical, or the vertical with a solemn frown of projection, as in the Palazzo Vecchio of Florence, and he considers the propped machicolations of this and of the Duomo far grander headings than any Greek cornice.

It is especially to be noted that those buildings on the whole seem the vastest which have been gathered up into a mighty square, and which look as if they had been measured by the angel's rod, "the length and the breadth and the height of it are equal."

The interest of some buildings is in their walls, and of others in the lines dividing their walls. In the Greek temple the wall is as nothing, and the entire interest is in the columns and frieze. In French Flamboyant and in our own perpendicular the object is to get rid of the wall surface and to fix the eye on tracery of line. But in Romanesque and Egyptian work the wall is a confessed and honoured member, and the most noble and sublime effects are produced by the varying action of time and storm, and by the play of passing light upon its extended and unbroken surface. The choice of a form approaching a square for the main outline is necessarily consequent upon an appreciation of the sublime element in architecture as just laid down. For while the fullest sense of surface is only attained by removing the terminal lines to the greatest distance from each other, grace and perfect proportion require an elongation in some one direction. Thus the architect has the choice of two types of form, the square when the surface is to be the subject of thought, and the elongated area when the divisions of the surface are to be the subjects of thought. Both these orders of form are marvellously united in the Ducal Palace of Venice; its general arrangement, a hollow square; its principal façade, an oblong, elongated to the eye by a range of thirty-four small arches, while it is separated by a richly canopied window in the centre into two massive divisions whose height and length are nearly as four to five, the arcade which gives it length being confined to the lower stories, and the upper, between its broad windows, left a mighty surface of smooth marble, chequered with blocks of alternate rose colour and white. "It would be hardly possible to invent an equal arrangement of all that is in building most dignified and most fair." In the Lombard Romanesque the two principles are more fused into each other, as most characteristically in the Cathedral of Pisa. Then as to the manifestation of power in details, that masonry will be the most magnificent which accommodates itself both in the finish and the size of the stones to the conditions of the work, sometimes heaping rock on rock with Titanic commandment, and anon binding the dusty remnants and edgy splinters into springing vaults and swelling domes. There is also a magnificence in the natural cleavage of the stone, to which the art must indeed be great that pretends to be equivalent. Next to size and weight the power of architecture may be said to depend upon the quantity and intenseness of its shadow. Among the first habits that a young architect should form is that of thinking in shadow. All that he has to do must be done by spaces of light and darkness, and his business is to see that the one is broad and bold enough not to be swallowed up by twilight, and the other not to be dried like a shallow pool by the noon-day sun. That this may be, light and shade must be massed, (either in somewhat equal weights, or with considerable disproportion) for majestic design depends on breadth of treatment. There are two marked styles of using light and shade, one in which, as in Greek sculpture and pillars, the forms are drawn with light upon darkness; the other in which they are drawn with darkness upon light, as in the early Gothic foliation. The latter is generally characterized by a trenchant style of design, in which both darks and lights are flat and terminated by sharp edges, while the former is associated with a softened and full manner of design, in which the darks are much warmed by reflected lights, and the lights are rounded and melt into them.

After passing through the Roman into the Romanesque architecture the broad flat lights were still made valuable by masses of energetic shadow; but with the enlargement of the window came the conception of tracery formed by penetrations, which from within are forms of light, and from without are forms of shade. The method of decoration by shadow was common to both northern and southern Gothic, but was used on divergent methods; the southern architect covering his walls with exquisite leafage and with inlaid stones, while the northern architect sunk foiled holes like those in his traceries, depending on the shadows for effect. By retaining the forms of the shadows in its sight the Venetian Gothic survived in its purity when the other Gothic styles became debased, and perished by allowing the lines of tracery and moulding rather than the forms of light and shadow to absorb attention. So also with the foliage, at first the form of the leaves is most important, and the under-cutting is slight though sharp, but in the later styles the stalks are made more prominent, and the leaves are wiry and crisp. Breadth and mass, of bulk, of light, of darkness, of colour, will alone, Mr. Ruskin concludes, give power and majesty to architecture.

In speaking of beauty, which is the next general principle examined, he requires us to grant him two postulates, first, that all lovely forms are taken from natural objects, with its converse, that all forms not so taken are ugly; and second, that those forms which are most frequent in nature are the most beautiful, while those which are more rare are less so. Tried by this rule the Doric triglyph and cornice are excluded as unimitative, and the Greek fret is condemned as being no ornament, because although the imitation of a natural form assumed by crystals of bismuth, it is rare and formed artificially. By an application of the same principle the egg and dart moulding and a lozenge shaped Lombard ornament are commended for their compliance with common natural forms. Heraldry and inscriptions are also unfit for decoration, though admissible when the information they afford is of more importance than ornament. Scrolls and ribands, drapery (except as an exponent of other and higher things), and especially garlands, and festoons of flowers and fruit, are condemned as being unnatural arrangements of natural objects. The square-headed hood moulding to the windows of the Elizabethan and modern Gothic is as offensive by its poverty as the garland by its profusion. Ornament must consist of the studious arrangement of natural forms, and is noble in proportion as it represents the highest orders of existence. Imitated flowers are nobler than imitated stones, imitated animals than flowers, imitated human form of all animal forms the noblest. But all are combined in the richest ornamental work, as for instance in the bronze of Ghiberti. If we ask, what is the right place for ornament? Not on the things belonging to active and occupied life, Mr. Ruskin replies; not on the shop front, or the railway station, not to hide some unsightly and disagreeable necessity, or to adorn what no one has time to look at. Its right place is where it can be calmly and quietly seen; on the house rather than on the shop, in the drawing-room than in the factory, on domestic furniture than on tools of handicraft.

Proportion, another element of beauty in architecture, Mr. Ruskin holds to be infinite. No rules will teach it. It is to be invented by the mind and eye of the artist, and cannot be limited to or deduced from existing fine works. The chief general law which may be noted is the necessity of the predominance of one member over the rest, whether in towers, spires, mouldings, or whatever other feature may be named. Symmetry is to be considered as chiefly connected with the horizontal, and proportion with the vertical division of a building, and the two possess several points of contrast. Thus, while a nave may be divided into equal bays, a tower cannot rightly be divided into equal stages. And while symmetry may be possessed by one, two, or any larger number of members, at least three members are necessary to form a proportion.

The conventional treatment of natural forms in existing examples of art is partly involuntary, and partly intentional, but the rule seems to be that the nearer portions of ornament only, and especially the animal forms, should be wrought out in absolute imitation of nature, while those ornaments at a greater distance from the eye should be connected with them by a graduated scale of abstraction. For there is a danger lest perfect sculpture throughout should degrade the architecture associated with it into a mere framework, and that it should not fulfil its part in the composition as accessory to the general effect at all distances. When these rules were violated, and when non-natural forms were adopted in decoration, the doom of architecture was sealed.

Architecture being not merely the representation of an idea, as sculpture is, but a reality itself, requires colour for its completion; while the imagination may be left to supply colour to the ideal form. The natural colours of marble and stone are the most permanent, as well as the most beautiful and appropriate, and in using these colours for architectural decoration they should be arranged on nature's principle of colouring, which consists in complete independence of form and construction. A column should not be painted with vertical lines, nor separate mouldings with separate colours, or sculptured ornament one colour and its ground another; but colour should be reserved for the flat wall and broad shaft. The limiting outlines of colour must be simple, not refined, or you will lose perfection of colour as you give perfection of line. All arrangement of colour, for its own sake, in graceful forms is barbarous, and we are consequently limited in architectural colouring to simple masses, such as zones, circles, triangles, &c., and to combinations of these. "Even in figure painting the greatest colourists have either melted their outline away, as Correggio and Rubens, or purposely made their masses of ungainly shape, as Titian, or placed their brightest hues in quaint patterns in costume, as Veronese and Angelico."

Heraldic devices, and even the cross and vertical bars of the Tudor or Flamboyant, though contemptible in form, may be excellent when treated in colour only; as in a beautiful and bright bit of wall painting behind the Duomo of Verona, composed of coats of arms and cardinals' hats, set in alternate squares. But the front of the Doge's Palace at Venice, with its mouldings and sculpture of white marble, and its chequered wall surface of pale rose-colour; or the green and white marble patterns of San Michele, at Lucca; and especially, and above all, Giotto's Campanile, are the most fitting and perfect examples of the application of colour to the exterior of public buildings. Four descriptions of architectural colouring may be distinguished. To perfect and independent sculpture, and to alto-relievo, colour should be applied cautiously (if at all) in points and borders only, and in a system non-concurrent with their forms. To basso-relievo and intaglio, bolder and increased colour may be applied, in proportion to their reduced fulness of form, but still non-concurrent with it. Thirdly, we have monochrome design, in which entire figures, of abstracted form and of one colour, are detached from a ground of another, and lastly patterns in vivid colour.

Similar principles should govern the forms of painting to be associated with architecture, although their limits are not easily assigned.

Vitality—the next main principle to be considered—can be traced in all good architecture, even in that which is an imitation of earlier works, as well by its frankness in not attempting any concealment of the source of its borrowing, as by its audacity in disregarding precedent, where precedent becomes inconvenient. Subordination of execution to conception, contempt of exact symmetry and measurement, and a relation of proportions to each other, somewhat similar to that found in organic forms, are still nobler and surer signs of vitality. These are displayed in the Duomo of Lucca and the Towers of Pistoja; and numberless other instances show them not to have been accidental but intentional. A splendid license is taken with the niche decoration of the portal of St. Maclou, at Rouen. The subject of the tympanum bas-relief is the Last Judgment, and the sculpture of the inferno side is carried out with a power whose fearful grotesqueness Mr. Ruskin describes as a mingling of the minds of Orcagna and Hogarth. "The demons are, perhaps, even more awful than Orcagna's, and in some of the expressions of debased humanity in its utmost despair, the English painter is at least equalled. Not less wild is the imagination which gives fury and fear even to the placing of the figures. An evil angel poised on the wing drives the condemned troops from before the Judgment seat; with his left hand he drags behind him a cloud, which he is spreading like a winding sheet over them all, but they are urged by him so furiously that they are driven, not merely to the extreme limit of that scene, which the sculptor confined elsewhere within the tympanum, but out of the tympanum and *into the niches of the arch;* while the flames which follow them, bent by the blast, as it seems, of the angel's wings, rush into the niches also, and burst up *through their tracery,* the three lowermost niches being represented as all on fire."

True vitality can only be produced by a man's heart being put into his work. It is not coarse cutting of stone, it is not blunt cutting, that is necessarily bad; but it is cold cutting—the tranquillity of heartless pains; shown more in finished work perhaps than in any other. Sculpture is rather the cutting of the effect of form than of form itself, and half the sculptor's touches are not to realize but to put power into the form.

Expression is often gained by incomplete and seemingly rude Mediæval sculpture, which is never attained in finished work, and in Greek sculpture is not even attempted. Such intelligent handling is most precious, and lacking it, much modern ornament is dead as leaves in December, without one warm touch, one tender stroke upon a whole façade.

Not the least noble aspect of architecture is that presented when we regard its connection with the past. In this aspect it can even confer qualities which add beauty and interest to nature herself. Poetry and Architecture are the sole conquerors of the forgetfulness of men, and the latter in some sort includes the former, and is mightier in its reality. We learn more of Greece from her sculpture than from her poetry. Even domestic buildings should be built to stand as long as human work can endure, and should each tell their own story so long as they exist. The interest of the great architecture of Italy and France depends not on the isolated richness of palaces, but upon the cherished and exquisite decoration of even the smallest tenements. The most elaborate piece of architecture in Venice is a small house, consisting of a ground floor, with two stories above, with three windows in the first and two in the second; and one of the most interesting pieces of fifteenth-century architecture in North Italy is a small house in a back street behind the market place of Vicenza, also with only a ground floor and two stories.

Public buildings should have a more distinct historical purpose. Every ornament on them should convey some portion of national history or feeling, however rudely or symbolically expressed. In the Ducal Palace at Venice, every capital has its meaning, though all are subordinated to general effect and structural requirements. Why might not our public buildings likewise unfold our history? and even when time shall have wasted their sculpture, why might they not still retain their impressiveness by the grandeur of their arrangements and masses, which should be designed with reference to the effect of age upon them? For the picturesque in architecture does not consist in the "expression of universal decay," but rather of its reminding us of what is sublime in nature; and its angular and broken lines, vigorous opposition of light and shadow, grave, deep or boldly contrasted colour, suggest objects upon which a true and essential sublimity rests—as rocks or mountains, stormy clouds or waves. As a general rule, the picturesque makes shadow important, and not form only; and makes accidental and inessential form the subject of thought—as, for instance, those of hair and drapery in sculpture—as well as the essential form of the limbs. Picturesqueness is sought in architecture in its decay, because it is commonly inconsistent with its original character, and by rents and stains is assimilated to the work of nature. But if rendered consistent with the inherent character of the architecture, age will add the noblest characteristics to a building. Those styles which, like the French Gothic, depend for their effect upon the arrangement of points of shade, rather gain in richness of effect when their details are partly worn away, and should therefore be adopted for more perishable materials, than those styles dependent on purity of line, as Italian Gothic, which should be practised in the most enduring materials.

For no restoration is possible. You may have a lifeless imitation, you may have another spirit given by another hand, but you can never bring back the old life either to the worn stone or to the new copy. Old buildings do not belong to us, to alter or destroy. They are owned by the dead who have left them, and by all their successors, not by us only.

Severity in architecture, and its subordination to fixed laws, are rendered necessary by the vastness, the daily influence, the costliness, the human handiwork, the historical duration, and the realism of its productions, as well as by the image it presents of man's truest happiness and power. Both theory and experience combine to prove that architecture can only be great when it is under as strict a law as language, and when variations of style are only so many dialects. Other necessities are matters of doubt. It is not a new style, but *one* style, that is wanted—one set of laws, that might be taught and learnt. Originality in architecture no more means new style, than originality in writing means new words; and neither are the work of one man, but of multitudes. They are spontaneous, and not the result of effort or design. The forms of architecture already known are good enough for us, but we want unity, fellowship and order in their use; and without these, all attempt at art is the merest dilletantism. Success in other arts is dependent upon unity in architecture. Some one style should be chosen, and authoritative examples selected, studied and taught; at first for exact imitation, and, after mastery has been attained, a license of change within certain limits might be permitted. The style chosen must be applicable to all buildings, without exception, and would probably lie between the Pisan Romanesque, the Gothic of Giotto, Venetian Gothic, or the English early decorated. This last, enriched from French sources, would probably be safest and best. The greatest freedom from embarrassment in choice, and from the necessity of an universal range of study would result, as well as great power and facility in design and fancy.

You have now before you an outline of Mr. Ruskin's architectural theories, as given in his earlier works, upon which any comment, except from other members of the Institute, would be out of place this evening. In concluding this paper, I would therefore, without expressing entire concurrence with all that he has advanced, acknowledge the debt under which every architect must feel he has laid our profession by placing our art in its true position of honour and importance, and by his brilliant and conscientious endeavours to enunciate its principles.

Professor Kerr (answering to the Chairman's invitation).—I am at least quite sure that the efforts of the lecturer will not be allowed to pass without a cordial vote of thanks. It is not always convenient to propose for discussion, in a Society like this, the opinions of a popular writer; and it will be readily understood that no one could venture to carry the present subject into debate without considerable misgivings. In point of fact, this meeting can scarcely be called upon at all to give expression, either directly or indirectly, to its opinion. At the same time we may, I think, trust ourselves to consider generally the condition of things architectural, which is indicated by what the lecturer has laid before us.

It seems to me that he has done well in advancing no criticism of his own. He has also done well, I think, in confining himself to the mere attempt to condense, as I understand him, into a short statement, the essence of the views of this eminent author, as developed at least in his earliest, and perhaps best writings. One could easily perceive, from the very tone of the lecturer, that he did not expect practical architects to agree in all respects, or even perhaps in many respects, with the theories which he was quoting. Indeed, as a practical architect, himself, he could not but have felt, in the very process of quotation, how very limited was the extent to which such dramatic principles could apply to sober every-day work; and it is not unlikely that even Mr. Ruskin has often felt the same.

Now, I may venture to say that architecture seems to me to have been during the last generation or two, very much overridden by theorists; and what I would now endeavour to do is to examine the position of Mr. Ruskin, as the last and most popular of these. The position which he occupies is in fact one which has been arrived at by a direct and intelligible process; and this process, it may be interesting to trace.

Some of our seniors remember, and all of us know, that less than fifty years ago the dilettanteism of classic Antiquarianism was supreme in architectural criticism. Everything in design was referred to certain more or less authentic precedents derived from the works of the ancient Greeks and Romans. Direct copyism, therefore,was not merely authorised, but universally inculcated. Every "attempt at originality" as the phrase went, was met literally with these very words: "Where is your precedent from the ancients?" We may consider this absurd. But at any rate it was an absurdity so firmly established as to be deemed impregnable for ever. We now see that it was impossible for such a romantic principle to remain absolute for any great length of time, without at all events undergoing some material change. Accordingly before long it was found that a certain other romanticism had been gradually creeping into architectural learning, springing out of the same kind of admiring contemplation, not of the classic ruins of Greece and Italy, but of the Gothic ruins of our land. So in course of time, very slowly, (we are seldom sufficiently alive to the fact that our mediæval revival has been at this moment a whole century in progress,—thus swiftly does time move;) very slowly, I say, and by imperceptible degrees a new kind of copyism arose—for Mr. Ruskin himself, with all his advocacy of Gothic architecture, is decided enough, I believe, in the language he uses with respect to this mere transfer of copyism from one field to another—a new kind of copyism arose, and every day gained ground, until the first was ultimately overthrown, but overthrown, be it observed, by nothing more elevated, or more elevating, than the precisely similar practice of the second. If, therefore, the theories of academical classicism had ridden architecture hard, those of the archæological mediævalism had come to be no less oppressive. Then came another kind of romanticism into view, which under the name of Ecclesiology acquired a distinct character and definite demands, becoming indeed a potent influence, and almost profound science. Suffice it to say upon this delicate point, that it is well known how deeply many of the best of us have deplored the embarrassment into which the theories of the ecclesiologists in their turn have led architectural practice during the last twenty years,—triumphant as they are, indeed, at this moment. But this is not all: at the next step, new theories of the Picturesque were introduced, and apart from both archæology and ecclesiology, took their place in architectural criticism. Many writers, thinkers, and designers in architecture have been very glad to dwell upon this element of the picturesque; and if they have gone too far, professing it to be the one essence without which architecture is of no value, there is certainly something of genuine art in the sentiment, compared, with which the copyism of antiquarians and archæologists, and the formulæ of ecclesiologists, all alike fail to satisfy the intellect. At all events, here we have one more step in our march of theories.

The last step which seems to demand mention is the introduction of the theories of the Poetic. Here, at last, we come to Mr. Ruskin. He is neither more nor less than the High Priest of a faith which directly identifies Architecture with Poetry; and this for the first time in artistic history. Other writers enough have given us sentimentality and rhodomontade; but it is this writer alone who yokes together intelligently, and intelligibly if such a thing were possible, the shapeliness and unshapeliness—both loved alike—of building, with the figments, frenzies, paradoxes, and pangs unutterable, of the poetic soul. Such, then, being Mr. Ruskin's position, what has he up to the present moment made of it? Our lecturer has laid before us, from perhaps the best of his works, a pretty complete system of his principles; but what do they amount to? We cannot say they are canons of architectural criticism; we cannot say they are precepts of architectural practice; all we can say is, they are wayward architectural dreams. We listen, some of us charmed, some mystified, some amused, all astonished,—fortunately none offended; but I fear none in any way edified. We perceive a certain sensation in the mind of having listened to a piece of masterly music thoughtfully and often powerfully rendered, but beyond its own utterance useless. When we are called upon to accept Mr. Ruskin's definition that Architecture is Uselessness, let him not be offended if we put it thus, that this architecture of his is most emphatically useless.

I would not detract, however, from Mr. Ruskin's eminence in his own particular field; and I do not know that he himself has ever claimed the merit of any direct practical teachership in professional architecture as some suppose. Indeed I fear those of us who assign to him so high a place in architectural criticism and in the advancement of architectural knowledge and skill, are only doing with him as he did with Turner, who is said to have declared himself all unconscious of the possession of those abstruse merits which the Oxford Graduate so elaborately discovered. It is very likely that Mr. Ruskin himself is much less ambitious than his admirers profess to believe him to be. But, taking him as a charming writer, and, as I have said, Priest of the visionary Poetry of Architecture, we will every one of us I am sure be most willing to assign to him a high place. In amusing the public on architectural ground, in gilding brick and mortar with glowing words, no one can compete with him; but as practical men we must not forget, or permit others to forget, that when he brings to bear upon a subject so familiar to us that kind of thought and expression which is significantly called "word painting," he is using the most treacherous of all possible argument, fair and false, fascinating to the uninformed, but utterly uninstructive to the initiated, and always dangerous to the young. I am most anxious not to say a word unjustly: I would not turn upon such a writer and challenge him to take pencil in hand and shew what he means; I do not admit that he takes such ground as to entitle us to appeal to that otherwise infallible test; I prefer to allow him to say all he pleases, reserving only to myself the assurance that he desires to keep within rational and respectful limits; but I think it is at the same time most important that we should prevent it from being understood by the public at large—who look to us for common sense and not for poetic passion,—that we architects are the admirers of this writer which we are often supposed to be. Give him all praise and approbation for his manly eloquence, his gracefulness of thought, his intensity and unimpeached honesty of purpose, and for his bold critical whimsies, the more vague the more suggestive, as all dreams are; but let it not be said that he is to be recognised as an architectural teacher. Mr. Ruskin is an honorary member of this Institute, and this shows the appreciation in which we hold him. We do not discourage his efforts, on the contrary, we honour them, but this is enough.

There is no doubt a certain definite philosophy which Mr. Ruskin develops in his studies of criticism (for this I think is the proper phrase); but it is never purely architectural—indiscriminately artistic, perhaps, and dramatic,—but never anything like an æsthetical system. For instance, it must have been frequently observed in what the lecturer read to-night that although there was something that bore on the face of it the appearance of æsthetics, yet when it came to an issue it proved to be not æsthetical after all, but romantic, and quite illogical. When Mr. Ruskin says there can be no architecture without building, and no good architecture without good building, this, as a general statement, is one which, to his mind, as an uninitiated person, may be eminently suggestive of what may appear to be important truths; but we, who know what building is—he not knowing it—can see nothing in the proposition but the vaguest commonplace, to which he could not by any possibility attach any real meaning in detail. The suggestiveness is not that of æsthetics, therefore, but that of poetry, and indeed of paradox, if we revert to the leading axiom that architecture is uselessness. So in the whole of the propositions which the lecturer has quoted, some apparently sound, and some apparently unsound, there are no really sound æsthetic canons, but only exercises of the poetic fancy. And why should poetry be brought thus to bear upon architecture? At the best it can be little more than a play upon words—the suggestion of that which may be a fact by the assertion of that which must be a figment; and Mr. Ruskin, as a poet confessed, can never be expected,—and it is in vain for us to demand it of him—to condescend upon plain intelligible statements involving practical architectural principles. Let us look therefore at this great writer in that particular view, and I think we do him far more honour, and assign to him more creditably his proper place in the economy of architectural study than if we thoughtlessly accede to a mere compliment of courtesy by which he is made to appear to be a great teacher of our art. I hope Mr. Ruskin will yet do great service to other art; but I have no hope of him in architecture. It is too complex a thing in detail, and too commonplace in practice, for any such passionate wooing as his. When we congratulated him in this Institute not long ago on his appointment to an important professorship of art, we did so cheerfully enough; and we may cordially believe that in fulfilling the duties of his appointment he will be able to work out some important principles of art; but I for one can only hope that he will say less of architecture than of other arts. There is a great field open to such a thinker and such a writer, in sculpture, painting, and the minor delineative arts; but architecture had better be left in other, not abler, but more practical hands. I think Mr. Ruskin has not written much on architecture lately. We have heard that he speaks even disparagingly of his own writings. A German philosopher says, "We are very near waking when we dream that we dream;" so also let us say that Mr. Ruskin has come all the nearer to correct principles of architectural criticism when he mistrusts his own writings. I will not say that he has done damage to architecture; but I must ask leave to say this, that if he will consent to devote the great powers bestowed upon him by nature to the development of poetic principles in arts of the more poetic sort, he will do more for the promotion of his own mental enjoyment and the public benefit than by random efforts in respect of that undoubtedly great and fascinating art which we who know it best, know to be nevertheless confined, as respects its poetry, within narrow limits.

Mr. JOHN P. SEDDON (Hon. Sec.)—I have pleasure in seconding the vote of thanks to Mr. Hoole for his paper, as I think it has been useful to have been reminded in this brief summary of the principal points which Mr. Ruskin has brought forward in his earlier works. I cannot agree with Professor Kerr that they are of an unpractical nature, nor has he, in my opinion, pointed out in what respects he considers them to be so. Since Mr. Ruskin's first works were published many years have passed, and many minds—practical minds—have been devoted to the subject, and have developed further and carried out independently similar principles to those suggested by that writer, but I must say—I speak for myself, and think I may do so for others,—that many minds have been influenced by him, even in their practice, while certainly the enthusiasm of numbers has been kindled by his eloquence. It seems to me there are many things which are now regarded as truisms, but which were not considered as truisms at the time, and simply taking the chapter on Truth, I should support the whole gist of the arguments which it contains. I think its forcible pleading was greatly needed, considering the faults which pervaded architecture at that time, from the neglect of veracity both in construction and ornamentation. In calling the attention of the public and the profession to the simple maxim that architecture, like all other things, should be founded upon honesty and truth, Mr. Ruskin did great service, and you may take every one of his chapters in the same way, and find that they contain valuable instruction and advice. Thus the chapter on Life in Architecture, if you consider the general bearing of it, lays down many important principles which were not previously recognised, and which are scarcely recognised thoroughly yet, and therefore I contend that Mr. Ruskin is to be looked upon as a great teacher of the principles of architecture as well as other arts, and that the profession, as well as the public at large, owe to him great thanks for the able services which he has rendered them.

Mr. H. W. BREWER, Visitor.—I was not present to hear this paper read, and having only heard a portion of the discussion, I am unable to join in it to any length. It seems to me, however, that the great charm of Mr. Ruskin's writings is that he has taken us into a new field of architecture, and has drawn our attention to the beautiful mediæval works of Italy which were before little understood and known, and of which but few architectural drawings had previously been made. Mr. Ruskin opened that field, and described a great deal of charming detail, particularly decorative work, to be found in Italy; and no one can doubt that for the use of precious materials, such as marble and coloured materials, which we now see so frequently in architectural work, we are to a great extent indebted to Mr. Ruskin and his writings.

Mr. EDWIN NASH, Fellow.—I feel that it would be presumptuous in me to prolong this discussion after Professor Kerr's excellent speech; nevertheless, as the meeting is somewhat scanty, I will offer a remark. It seems to me that Mr. Ruskin's writings have been of great value to architecture, inasmuch as any man who raises the imagination of the professors of a fine art must be benefiting that art; Mr. Ruskin has done this, and he is, as Professor Kerr has said, the high priest of poetry in architecture and other forms of art, but that we have learnt a great deal from Mr. Ruskin I cannot admit; his poetic treatment of art throws a pleasing halo about it, and as the foundation of our own work is chiefly practical, we do want something of this kind to cheer us. But much of what Mr. Ruskin gives us is neither new nor of a practical nature. He gives us rules or canons and we can understand the canon of Truth, perhaps, but I doubt whether there is one in this room who can tell me what the canon of Proportion is. There must be such a canon, for if there be no difference in sizes there is no proportion. You must have gradations of position and of size; and if any one can lay down rules with regard to these items he will have done some good. Admiring Mr. Ruskin as I do in many respects, I am grateful to Mr. Hoole for having brought this subject before us; and I hope that the time will come when we may gather from Mr. Ruskin's works something of a more tangible nature than heretofore.

The CHAIRMAN, in putting the resolution, remarked that Mr. Hoole's paper had been the means of eliciting criticisms upon Mr. Ruskin's past works, and it would be interesting if the same gentleman would on some future occasion take up the subject of Mr. Ruskin's present opinions.

The vote of thanks having been unanimously passed, the meeting adjourned.

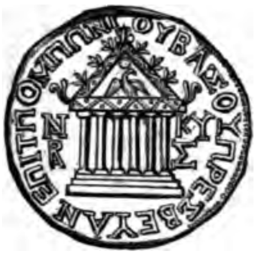
Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 28th day of February, 1870,
Edward I'Anson, Vice-President, in the Chair, the following Papers were read:—

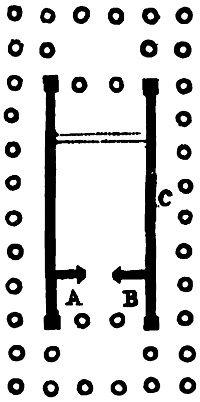
SOME NOTICE OF THE CELEBRATED INSCRIPTIONS, COMMONLY CALLED THE TESTAMENTUM AUGUSTI, IN THE TEMPLE OF. AUGUSTUS AND ROME AT ANCYRA.

By Professor **Donaldson**, P.P., Hon. Sec. For. Corr.

Ancyra was the Metropolitan town of Galatia in Asia Minor, and is now called Angora, being distant from the borders of the Black Sea about two degrees of latitude, and lying 39° 55′ N. by 32° 20′ E. on our charts. It was on the high road of communication and thoroughfare of traffic between the eastern and western worlds of antiquity. Although of Greek, or more properly Gaulish, origin it owes its principal renown to the time when it came under the empire of Rome, as the chief town or capital of the Tetrarchy of the Galatians, to whom S. Paul wrote his Epistle. The citadel occupied the summit of a volcanic rock, the sides of which were very precipitous, and the buildings of the town were grouped around it. The ruins now consist almost entirely of the monuments erected by the Romans; and our Honorary and Corresponding Member M. Texier in his description of Asia Minor, 8vo. 1862, p. 480, states that inscriptions notice a hippodrome, baths, aqueducts and many temples due to the magnificence and piety of their conquerors. There still exists a noble fragment of a marble hexastyle peripteral temple of the Corinthian order, the lateral walls of the cella with the antæ at the ends, and the wall of the pronaos with the doorway now remaining. It doubtless was the one dedicated to Augustus and Rome, as represented upon a silver medal of the town under Nerva, struck by T. Pomponius Bassus Præfect, with an eagle in the tympanum of the pediment. The pediment, the entablature and fluted columns no longer exist, but the details of the capitals of the antæ, representing winged victories with foliage of acanthus continued along the wall as a species of capping, are of the finest style of art. Monsieur Texier, in plate 28 of his work already quoted, gives a view in front of the pronaos: the doorway, which is of noble proportion, rises as high as the top of the antæ capitals, with finely profiled consoles and enrichments throughout. The pure elegance of the details of this temple are an incontestable evidence of its belonging to the period of Augustus. The restorations and the buildings erected under subsequent emperors, especially of the time of the Antonines, in Asia Minor are depraved in taste, an evidence of which is to be found in the Temple of Diana at Teos, recently studied by Mr. Pullan, who has noted the inferior style of the frieze and sculptures, showing a restoration of a much later time. After the decline of the empire it was converted into a Byzantine church; subsequently it formed part of a Turkish mosque of Hadschi Beiram: and ultimately it has become a burial place with wretched brick hovels built up against one of the flank walls of the cella. The peculiar interest, which attaches to this beautiful specimen of Roman art, now arises from the inscriptions incised upon the walls of the pronaos and cella. A portion of these inscriptions relate to the ceremonies and games given upon the occasion of the dedication, when three hundred pairs of gladiators fought; for Ancyra was one of the Neochor cities of Asia Minor, a class to



which I make special allusion in my work 'Architectura Numismatica,' p. 132. It had in consequence its periodical festivals in honour of Augustus and Rome. The inscriptions also record the names of kings and others, who contributed to defray the expenses of the games; and mention is made of other exhibitions of combats of gladiators varying from twenty-two to three hundred couples of combatants, courses of horses and chariots, hunts of wild beasts, sacrifices of hecatombs, largesses distributed, and oil given for periods varying from four to twelve months with scrupulous minuteness. But the most remarkable of these historical records are those in Latin and Greek, copies from the brass pillars, which existed at Rome under the care of the Vestals, attached, it is supposed, to the Mausoleum of Augustus in the Campus Martius. These pillars contain what is strangely termed the Will of Augustus, whereas it is rather a recital of his acts and deeds. The earliest authentic notice, that we have of it from travellers, is by Tournefort, 1717, who gives one plate of illustration. Our countryman, John M. Kinneir, a century after, in his 'Journey through Asia Minor, &c.' 8vo. 1818, slightly alludes to it. Our Honorary and Corresponding Member, M. Texier, gives a fuller account with plates in his work on 'Asia Minor,' fol. 1849. And, he having called the attention of Mr. W. Hamilton to it when at Smyrna, that gentleman went specially to Angora, bestowing much time in deciphering what he could, mentioning it in his work, 1842. At length, by order of the Emperor of the French, Napoleon III., Messieurs George Perrot and Edmond Guillaume, were sent to take accurate transcriptions, which they published in a folio work begun in 1862, and still in progress. Lastly the learned scholar Theodor Mommsen, of Berlin, published in 1865 a special work in 8vo. upon the whole matter, subjecting it to the most patient investigation, summing up all the particulars relating to the inscriptions, enriching it with critical notes and references to all the historical authorities, and on three sheets giving the texts in columns, as they appear on the marble blocks of the temple.



The Latin text is inscribed on the wall of the pronaos, one half which is the commencement, being to the left (A), and the other half, which is the conclusion, being to the right (B), as one enters. The cella is about 34 feet wide by 50 feet 7 inches long. The courses of marble are precisely one foot six inches high, and the blocks vary in length. They had square sunk channels, horizontal and vertical at the joints, and the surface appears to have been cut down to the level of the sunk face of the channelling, so as to leave it level for the inscriptions. On either side there are three columns of lettering, varying from 3 feet 9 inches to 4 feet 2 inches in width, occupying a height of six courses of marble, or 9 feet, and a total width of surface of about 12 feet. There are fifty-three lines of lettering, a letter and interspace equalling one inch and seven-eighths together, and the letters about half, but varying, as they do not follow the regularity usual in modern inscriptions, and are consequently more picturesque. Pocock's idea seems to be, that the lettering was gilt on a vermilion ground.

These particulars are more specially appreciable in the last-named careful work of Perrot and Guillaume, as the sheets on which they represent the inscriptions are to a scale of one-tenth of the original size. The Greek text is a translation from the Latin, and is incised on one of the flank walls (C) of the cella, against which the hovels above mentioned had been built. This circumstance has caused it to be much injured, and considerable parts of the surface have been rubbed down, so as to obliterate the characters. It also is in columns or vertical divisions, and assimilates in that respect to the Latin.

It is a remarkable circumstance, that, whereas in both inscriptions there are considerable surfaces defaced, so as to render them illegible or very difficult to make out; yet the Latin portion, to which I venture to call more particularly your attention, that is, the paragraphs relating to the public works of

Augustus, is free from any very serious blanks, and leaves little which, does not admit of restoration from the Greek, and thus mutually the two texts assist in the elucidation of the whole. The headings of the two inscriptions are in characters much larger than the rest, that to the Latin inscription is to the following effect:—

"Of the deeds of the Divine Augustus, by which he subjected the world to the Empire of the Roman People: of the expenses he incurred for the public good and the Roman People—on two brass pillars, which are placed at Rome—a correct copy."

It will be perceived that this heading divides the subjects, upon which the inscriptions treat, into two sections. It is a portion of the second that most interests architects, as to the public works he erected, comprising temples, basilicas, theatres, fora, porticoes, etc., etc. And he concludes by stating that he dictated it in his seventy-sixth year. The paragraphs of the Latin inscription relating to buildings are on the right hand (B) of the pronaos, and column IV begins as follows. The numbers are for the sake of reference to the translation.

1 CVRIAM · ET · CONTINENS · EI · CHALCIDICVM · TEMPLVM · QVE · APOLLINIS · IN
2 PALATIO · CVM · PORTICIBVS · AEDEM · DIVI · IVLI · LVPERCAL · PORTICVM · AD · CIR
3 CVM · FLAMINIVM · QVAM · SVM · APPELLAR · PASSVS · EX · NOMINE · EIVS · QVI · PRI
4 OREM · EODEM · IN · SOLO · FECERAT · OCTAVIAM · PVLVINAR · AD · CIRCVM · MAXIMVM
5 AEDES · IN · CAPITOLIO · IOVIS · FERETRI · ET · IOVIS TONANTIS · AEDEM · QVIRINI
6 AEDES · MINERVAE · ET · IVNONIS · REGINAE · ET · IOVIS · LIBERTATIS · IN · AVENTINO
7 AEDEM · LARVM · IN · SVMMA · SACRA · VIA · AEDEM · DEVM · PENATIVM · IN · VELIA
8 AEDEM · IVVENTATIS- AEDEM · MATRIS · MAGNAE · IN · PALATIO · FECI
9 CAPITOLIVM · ET · POMPEIVM · THEATRVM · YTRVMQVE · OPVS · IMPENSA · GRANDI · REFECI
10 SINE · VLLA · INSCRIPTIONE · NOMINIS · MEI · RIVOS · AQVARVM · COMPLVRIBVS · LOCIS
11 VETVSTATE · LABENTES · REFECI · ET · AQVAM · QVAE · MARCIA · APPELLATVR · DVPLICAVI
12 FONTE · NOVO · IN · RIVVM · EIVS · INMISSO FORVM · IVLIVM · ET · BASILICAM
13 QVAE · FVIT · INTER · AEDEM · CASTORIS · ET · AEDEM · SATVRNI · COEPTA · PROFLIGATA
14 QVE · OPERA · A · PATRE · MEO · PERFECI · ET · EANDEM · BASILICAM · CONSVMP[TAM] IN
15 CENDIO · AMPLIATO · EIVS · SOLO · SVB · TITVLO · NOMINIS · FILIORVM . M[EORVM · I]N
16 COHAVI · ET · SI · VIVVS · NON · PERFECISSEM · PERFICI · AB · HEREDIB[VS · MEIS · IVSSI]
17 DVO · ET · OCTOGINTA · TEMPLA · DEVM · IN · VRBE · CONSVL · SE[XTVM · EX · DECRETO]
18 SENATVS · REFECI · NVLLO · PRAETERMISSO · QVOD[EO]TEMP[ORE · REFICI · OPORTERET
19 [CONSVL]SEPTIMVM · VIAM · FLAMINIA[M · EX] · MA[NIBIIS]ARI[MINO · TENVS · ET · PONTES]
20 O[MNES]PRAETER · MV[L]VIVM · ET · MINV[C]IVM [REFECI]
21 INPRIVATO · SOLO · MARTIS · VLTORIS · TEMPLVM [F]ORVMQVE · AVGVSTVM · [EX · MANI]
22 BIIS · FECI · THEATRVM · AD · AEDEM · APOLLINIS · IN · SOLO · MAGNA · EX · PARTE · A · P[R]I[V]ATIS
23 EMPTO · FECI · QVOD · SVB · NOMINE · M · MARCELLI · GENERI · MEI · ESSET · DON[A . EX]
24 MANIBIIS · IN · CAPITOLIO · ET · IN · AEDE · DIVI · IVLI · ET · IN · AEDE · APOLLINIS · ET · IN · AE
25 DE · VESTAE · ET · IN · TEMPLO · MARTIS · VLTORIS · CONSACRAVI QVAE · MIHI · CONSTI
26 TERVNT · HS · CIRCITER · MILLIENS

1 The Curia and Chalcidicum attached to it, and the Temple of Apollo in
2 the Palace with porticoes, the Temple of the divine Julius, the Lupercal, the portico at
3 the Flaminian Circus, which I allowed to be called Octavian from the name of him, who had erected
4 the prior one on the same spot, the Stand (or Imperial Box) at the Circus Maximus,

5 the Temples in the Capitol of Feretrian Jove and Jupiter Tonans, the Temple of Quirinus,
6 the Temples of Minerva and Juno the Queen and of Jupiter the deliverer on the Aventine,
7 the Temple of the Lares on the top of the Via Sacra, the Temple of the Dii Penates in Velia,
8 the Temple of Youth, the Temple of the Mater Magna in the Palace I built.
9 I rebuilt the Capitol and Pompeys Theatre both at a great expense
10 without any inscription of my name. The chanels of the aqueducts in very many places
11 decaying by age I restored: and the water, which is called Marcia, I doubled
12 by a new Spring brought into its course. The Julian Forum and Basilica,
13 which was between the Temple of Castor and Pollux, and the Temple of Saturn, and the works begun
14 and far advanced by my Father, I completed; and the same Basilica consumed
15 by fire upon a larger plan under the title of the name of [my] Sons
16 I began; and, if I should not live to finish them, [I have commanded them] to be finished by [my] heirs.
17 Eighty-two Temples of the Gods in the city, while I was Consul for the sixth time, I rebuilt by decree
18 Of the Senate, nothing being omitted which (it behoved me to make good).
19 Consul for the seventh time (I repaired) the Flaminian way, from the spoils, up to Rimini,
20 And (all the Bridges) except the Mulvian and Minu[c]ian,
21 On private ground I built from the spoils the Temple of Mars Ultor and the Forum of Augustus.
22 I built the Theatre near the Temple of Apollo on ground in great part
23 bought of private persons, which should be in the name of M. Marcellus my Son in law.
24 From the spoils in the Capitol in the temple of the Divine Julius, and in the Temple of Apollo, and in
25 the Temple of Vesta, and in the Temple of Mars Ultor, I consecrated
26 what cost me about "*milliens*" of sesterces, (according to Ainsworth about £807,000.)

I should remark, that this extract contains about one-tenth of the whole inscription. The rest relates to the nations conquered or settled under the Roman rule by Augustus; and the Britanni are mentioned, and the names given of two of their kings, one of whom is DVMNOBELLANVS, and part of another beginning TIN. A certain indistinctness in both the inscriptions from injury, causes some doubt as to the precise names. Mommsen admits the possibility of three British Princes DVMNO : BELLAVNVS and TIM : : : Evans in his admirable work 'The coins of the ancient Britons,' p. 198, alludes to this passage of our inscription, and considers that DVMNOBELLAVNVS is identical with the DVBNOVELLANVS of the gold coins, which he illustrates plate IV, 6, 7, 8, 9; and he suggests the probability of the indistinct letters TIN and unfinished name to refer to TIN [COMMIVS], one of our known ancient Princes. The inscription also records the foundation of colonies, the recovery of standards from the enemy, a very important circumstance with the Romans, and for which coins were specially struck with the words "Signis receptis" or special notices, as "Civibus et signis militaribus a Parthis recuperatis." See 'Architectura Numismatica,' p. 95. It notices his alliances with peoples and kings, and the honors conferred on him by the Senate and people; and it recites the gladiatorial shews, sea fights and games, which he gave; and his philanthrophic benefactions to the cities of Italy and the provinces, devastated by war or natural catastrophes, like those described in the letters of Pliny to Trajan. And in one part it mentions, that he had as conqueror replaced in the ravaged temples of all the cities of the provinces of Asia the ornaments, that had been taken away by the enemy as their prey. It alludes also to the spectacle of a naval battle, which he had given in Trans Tiber at a spot called the Grove of the Cæsars; having taken the soil from an area eighteen hundred feet long by twelve hundred feet wide, and in which thirty beaked triremes and biremes and other small ones fought, and in which were about 3,000 combatants besides the rowers. In one passage he notes, with great indifference, that in eight contests of gladiators, given in his own name and those of his son and nephews, about 10,000 men had fought. Such disregard do the Romans appear to have had for human life in the games given for their amusement! And in various authors we read of two hundred and two hundred and fifty lions slain at one time.

Much allowance must be made in this catalogue of the deeds of Augustus, on account of the customs of those periods: for what may seem to us a vainglorious recital made by an individual of his own acts and doings, was a practice derived from the more Eastern* usages, and to us it would appear less unbecoming if narrated in the third person instead of the first. The works at Rome may not seem very numerous, considering the length of such a reign, and that they were done by the direct command of an absolute sovereign. Yet even any one acquainted with antiquity, who comprehends Rome, and has studied the buildings recited, their size and extent, and who calls to mind the richness of the materials employed of the most precious and costly nature, as marbles from all parts of the world, bronze, gold, ivory and rare woods, the profusion and exquisiteness of the sculptured details, besides the statues and groups, and even the paintings and fittings up of such superb structures, must be filled with amaze at the tens of millions of our money, which must bave been expended.

But there is a term is this inscription, revealing one of the sources, and that is a material one, which provided the means for such a profuse outlay. "Ex Manibiis" is used several times in various sections of the Latin inscription. It shews that the spoils of war and of conquered provinces provided no inconsiderable share of the funds for the Emperor's liberality. For those distant possessions were not only victims to the private extortions of the Proconsuls or Prætors, as we learn from Cicero pro Verrem; but they had to pay vast sums into the public treasury of Rome, in order to lighten the burdens of the Roman people, and contribute to their need and to their luxuries "panem et circenses." We are not to limit our notions of all the public edifices erected during the time of Augustus to the list here given. There were other leading men, who notably raised stupendous buildings; as for example the Pantheon and contiguous Thermæ and the Aqueducts of the Julian and Virgin waters by Agrippa; not to mention the consuls and other public functionaries, who had to provide buildings for the service of the government, the administration of justice, and other necessities of the city and army.

We must admire the noble-mindedness of the Emperor and his public officers, who with a self-conscious dignity honored art and artists, a spirit reflected in the present day by the enlargement of the city of Vienna now carrying on, and by the operations at Paris within the few years of the reign of the Emperor Napoleon III. Augustus by his Prefects and Ediles did not despise the capacity and genius of their artists: they did not seek to do the least possible work at the least possible price. There is a fine French saying "noblesse oblige:" and the Augustan government did not shirk the responsibility of carrying on operations in a manner, suitable to the Roman name and to the dignity of the Roman people. They sought not popularity under the specious miserable plea of a narrow economy; as though they were administering for a pauper people with the means of a bankrupt commonwealth.

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* This inference has been most remarkably confirmed since the above was written, by a very extraordinary Maobite inscription recently discovered on the site of the ancient Dibon, and incised upon a block of stone about 3 feet 3 inches high by about 2 feet wide. It is bilinguar, being in the original Phœnician and Hebrew characters, the words being separated by points, as in our inscription, and the sentences by vertical bars. A French translation of it has just been published in a pamphlet entitled La Stèle de Mesa Roi de Moab, par Ch. C. Ganneau, 4to., Paris, 1870, and noted by our Honorary and Corresponding Member the Count de Vogüé. The portion relating to the acts of Mesha King of Moab, who was contemporaneous with Ahaziah King of Israel, recites the following public works:

"It is I, who constructed the terrace, the walls of Yearim, and the walls of . . . . | And it is I, who built its gates, and it is I, who constructed its fortress | And it is I, who have constructed Bet-Moloch ‖ And it is I, who have made the two . . . . Qir | And there was no well in the interior of Qir on its terrace, and I said to all the people let every one in his house make a well | It is I, who have offered a holocaust upon the terrace (?) in . . . . . Israel | It is I, who have constructed Aröer (?) and it is I, who have made the road of Arnon | It is I, who constructed Bet-Bamoth, which was destroyed (?) | It is I, who have constructed Bosor, &c. &c. &c."

ON AUTOGRAPH DRAWINGS OF THE GREAT MASTERS OF ARCHITECTURE, PRESERVED IN THE LIBRARIES, &c. OF ITALY AND OTHER COUNTRIES.

WHEN we notice the grand works executed by the masters of our art, we are anxious to dive into the secret of those inspirations by which their minds were influenced, and to probe the workings of their genius, so as to ascertain by what means their ideas attained the perfection visible in their productions. This is a curious enquiry, and occasionally it may be a valuable and instructive one; for frequently we may mark the gradual development of a thought originally crude, containing the germs of a fine project, progressively worked out in arrangement, proportions and details, so as to become a creation worthy of its author. This may be the result of one mind, as in S. Paul's London, where the first idea of Sir Christopher Wren underwent many modifications, as is obvious in his drawings preserved at Oxford and in the Soane Museum. It was the case also of S. Martin's Church, London, for we see in the collection of drawings preserved in the Radcliffe Library, Oxford, the steps by which James Gibbs gradually improved his original, and one might almost say ungainly, design, until it assumed the imposing mass which it now presents in Trafalgar Square. Or the final monument may be the production of many successive minds, and the fruit of more than a century and a half, as was the case in S. Peter's at Rome, where the first notion of Bramante's fruitful genius, in 1505, was modified, reduced and finally enlarged by the genius of Raphael, the Sangalli, Baldassare Peruzzi, Michael Angelo, Buonarotti, Vignola, Giacomo della Porta; and at length completed, about 1650, by the stupendous circular colonnades of the imaginative Bernini, which seems to embody the idea of the Church with extended and open arms, ready to receive and embrace the whole Christian world.

The sketches and drawings of the architects often enable one to follow out the series of thoughts of such a progress, and I was anxious to ascertain, when I was lately in Italy, where any such records existed, in order to report them to the Institute. I entertained also the vague hope, that there might still remain undiscovered some hidden treasures of past ages, records of buildings of ancient nay even of more recent times, which had been swept away, leaving no other memento of them as original and valuable ideas.

ITALY.

My first researches were in the Library, now in the Ducal Palace, at Venice; but I found, that there was no collection of drawings, and only some MS. treatises of minor importance, by men of no reputation, as a certain G. Filippi, and one Giambatista Novello; or translations, especially of some of the books of Vitruvius, by D. Barbaro and G. da S. Gallo; and the titles of them were only discoverable by a painful search through MS. Catalogues, having no special references by which to guide one's investigations.

At BOLOGNA I enquired at the University, the Public Library and Academy of Fine Arts, but I was assured there were no collections of architectural drawings whatever. I have since greatly regretted, that I did not call to mind, that there are preserved in the Sacristy of the Cathedral Church of S. Petronio the models and drawings, sent in competition, of designs for the completion of the Façade. The most eminent architects of various periods have submitted projects in the styles of the successive epochs, by Vignola, Palladio, Giacomo Ranuccio, Dominico Tibaldi, Baldassare Peruzzi, Giulio Romano, Cristofero Lombardo, A. Alberto, Rainaldi, Varignani, Andrea Formigino and Francesco Terribilia. The design of this last was approved in 1580 by the Senate of Bologna, happily perhaps, never carried out. See Valery, 'Voyage en Italie.'

At FLORENCE I was more fortunate, for in the Library of the Gallery of the Ufficj are forty-five portfolios and books, with 8000 architectural designs, sketches and drawings of all sorts. The folios 1 and 2 contain only the works of Baldassare Peruzzi, and 4, 5, 6, 7, exclusively those of Antonio da Sangallo the younger. More than 1000 are contained in the portfolios numbered 32 and 34. Some of the drawings are in outline, generally in bistre; others, but more rarely, in indian ink. Some are tinted in bistre or indian ink, and many shaded in red or black chalk. The subjects are various, being of plans, elevations, sections, details and perspectives, and are drawn on various sized pieces or sheets of paper or vellum, and some are tracings. Many of those, which have sculptures, figures or other ornamental details, are exquisitely drawn in with a very fine pen, mostly in bistre.

During the days I was agreeably occupied in looking through this collection and tracing some of the drawings, I had the pleasure of making the acquaintance of Herr Enrico di Geymüller, architect, of Hocfelden, near Achern, in Germany. I minutely examined with him the chief drawings. He is engaged, with a passionate and absorbing devotion for the subject, in investigating a mass of drawings relating to the Basilica of S. Peter's at Rome, with the special object of ascertaining how far the design of Bramante had been carried out, and the successive ideas, which had presented themselves to the mind of that great master. With the permission of the Signor Pini, the chief librarian, who was glad to avail himself of Herr Geymüller's special knowledge of the subject, he was permitted to collect and methodically arrange the series of drawings relating to S. Peter's, and he has published a brief description of them in a pamphlet, 8vo. Roma, 1868, entitled "Notizie sopra i progetti per la fabrica di S. Pietro in Roma," and thus the student has the rare advantage of following up all the ideas of the several architects engaged from time to time on this grand building. There is the supposed original study by Bramante, on a sheet of paper 28 long by 18 wide, lined into squares, sixteen of which equal 2⅝ of an inch, a system thought to be of modern invention, and now largely used by the French. On this are drawn three plans, one over the other, in red pencil, but without any writing or figures on it, and which Herr Geymüller considers to be the original project of S. Peter's. He divides the series of drawings of fifty-three sheets into three periods. The first that of Bramante, from 1505 to 1514, in which year he died on the 11th March. The second period is that from Bramante to the death of Raffaello d'Urbino, 1514-20. The third illustrates the projects of Baldassare de' Peruzzi, 1520-1537, he having died on the 6th January, 1537. Herr Geymüller proposes to publish a Life of Bramante, for whose genius he has the most exalted admiration, and to illustrate it from the original documents existing in Florence and Rome. Such a complete analysis of the genius and works of the great master, and of the progress of S. Peter's, will be a valuable addition to the literature of our art, and I trust the author will reap the full reward of his earnest labours.

I have dwelt upon this series of drawings, which from their completeness give an idea of the value of the whole collection, among which are to be found numerous drawings by or after Antonio da Sangallo and Peruzzi, and other architects, upon various subjects; and series of graceful capitals and decorative details by one Pietro Cani, of Sienna, 1533. I took tracings from some few drawings, and now submit them to you, in order to enable you to judge of the interest, which attaches to many, although it must be confessed, that the greater number are of no value at all. Among the best must be especially noticed either the original idea or subsequent project, I conceive the former, for the completion of the Villa Madama at Rome, the design of which is attributed to Raphael, with its exquisite frescoes by Giulio Romano and Giovanni d'Udine, both of them his pupils. Little more than half of the circular court and the immediately adjoining chambers were built. Percier and Fontaine in their work on the Villas of Rome shadow out the completion; but in so mechanical and inferior a style, as to render this design most precious. It therefore forms one of the illustrations of this paper. This is a very fine illustration of those suburban retreats erected by the nobility of Rome, descendants from the

Papal families of past centuries. It is situate on one of the slopes near Monte Mario, and commands fine views of Rome, the Tiber and the Campagna. The ascending levels produced the most favourable opportunities for picturesque effects of planning. The central approach affords access to a long wide court, on one side of which are stalls for above 200 horses. The elevation of the palace reminds one of the aspect of a front of the ancient Thermæ. There is an ample open vestibule in three divisions, which leads into a circular court 130 braccia in diameter. To the right is the portion that has been constructed, and forms quite a distinct portion, with its own staircase and suite of apartments. According to the usages of past times one-half of such a palace was occupied by the prince and family, and the other devoted to the friends and visitors. To the right and left are ample courts; those to the left with flights of steps leading down to a lower level. Adjoining is an oblong court planted with trees, having a fountain in the centre and porticoes at each end. On the further side, opposite the entrance and passing through the palace, is a theatre rising up with the slope of the hill, for the representation of the masques and dramatic pieces so common in that period. In the portion which still remains, and particularly under the triple arcaded pavillon, are those exquisite fresco decorations, the delight of those who now visit these deserted spots and experience a rich succession of impressions in, as it were, a special atmosphere of art and taste. L. Gruner in his valuable work on Fresco Decorations, pl. 6 to 12 inclusive, gives admirable coloured illustrations of this "Capo d'Opera" of Italian taste and fancy. The other illustration contains four marble seats or thrones of beautiful design, drawn by P. Cani.

I cannot but notice the perfect freedom allowed by the Signor Pini, who permitted me unreservedly to trace with a pencil from the original drawings.

I should remark that to a certain degree the drawings are classified in the portfolios or books according to the subjects, as Palaces, Churches and other buildings.

ROME. When I got there I made enquiries as to the libraries, where I might probably find original architectural drawings. The Palazzo Corsini has the reputation of possessing some; but my researches there were fruitless; for the librarian assured me none existed, and that they had only MS. translations of Vitruvius; these are of little worth, as they were based upon the corrupt text of Jocundus.

I next went to the Library in the Barberini Palace, where I found the librarian not to be one of the most courteous custodi of literary treasures. He was very reticent of information, and insisted upon the most scrupulous attention to the rigorous regulation, which forbids any tracing even with a soft pencil; and he required me, if I desired to make copies of the drawings, to do so without touching them for the purpose: a restriction, that precludes rigorous exactness in the copy. The only collection of original architectural drawings in the library is the following folio thus entitled — QUESTO LIBRO DI FRANCESCO GIAMBERTI ARCHITETTO NUOVAMENTE DA SANGALLO CHIAMATO. I MOLTI DISEGNI MISURATI E TRATTI DALLO ANTICHO, CHOMINCIATO A.D., N.S., 1465, IN ROMA.

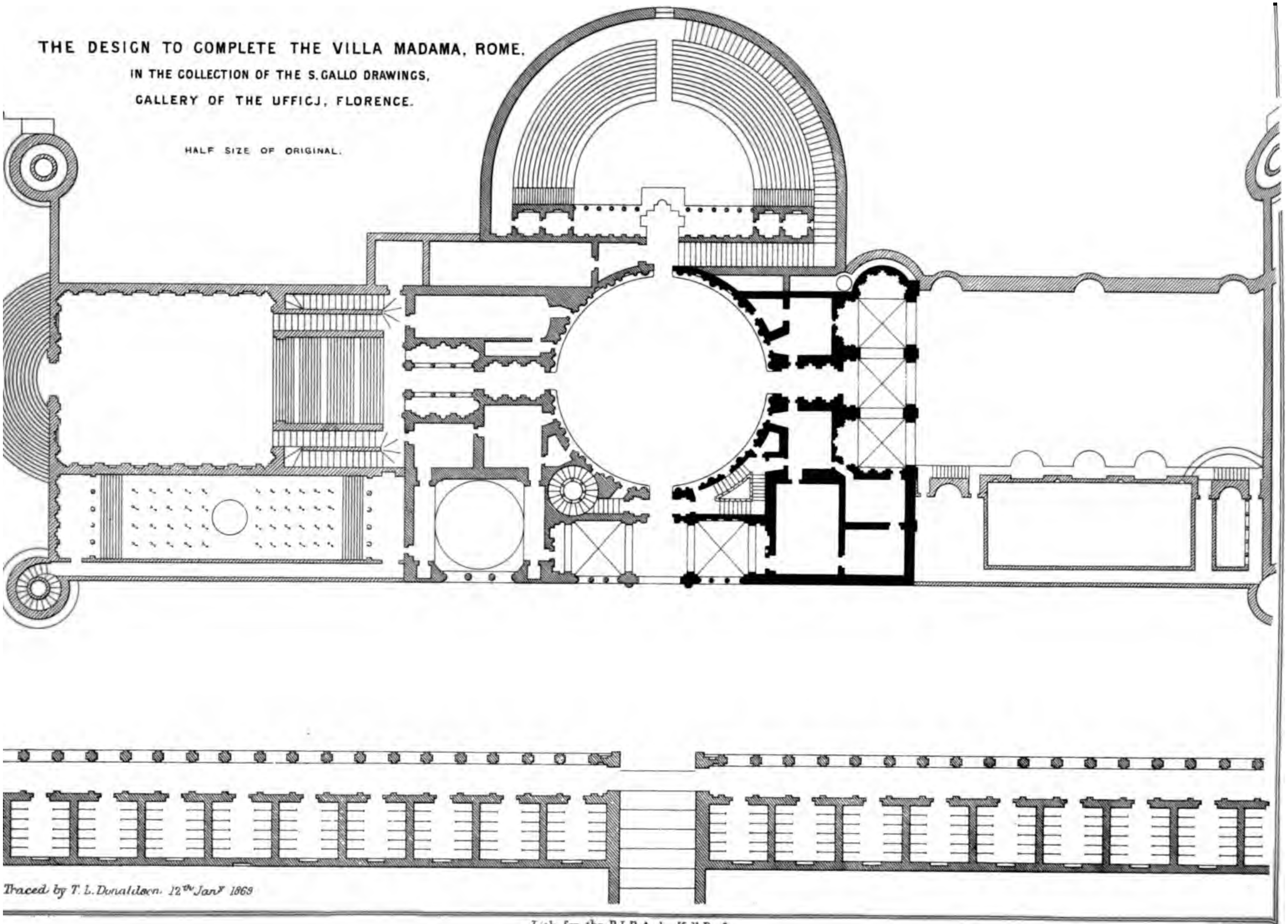
"This book of Francesco Giamberti Architect newly called da Sangello. The many drawings measured and taken from the antique, begun in the year of our Lord, 1465, in Rome." The volume consists of sixty-two folio sheets of vellum, four of which are plain or blank without any drawing. The buildings delineated on the other fifty-eight are both ancient and modern, many of the antique ones being restored. Some of the triumphal arches, as those of Septimius Severus, Domitian and Titus, are completed with a pediment as a crowning feature, and it must be owned that for this treatment there are authorities on a medal of Augustus (No. 59, Architecture Numismatica) and on arches in towns in the South of France, where the pediment is introduced although not on the summit. There are drawings of some war vessels with paddle wheels worked by hand, and picturesque views of ancient Rome with fragments of columns, &c., which no longer exist.

There are also plans of Greek buildings (somewhat apocryphal) furnished him, he says, by a Greek

THE DESIGN TO COMPLETE THE VILLA MADAMA, ROME.

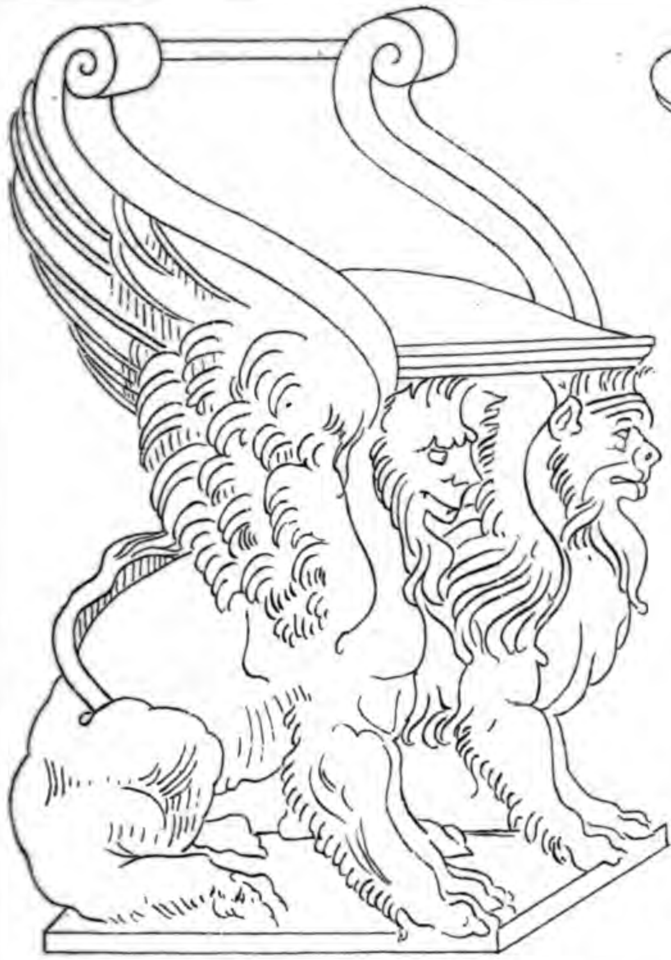
IN THE COLLECTION OF THE S. GALLO DRAWINGS,
GALLERY OF THE UFFICJ, FLORENCE.

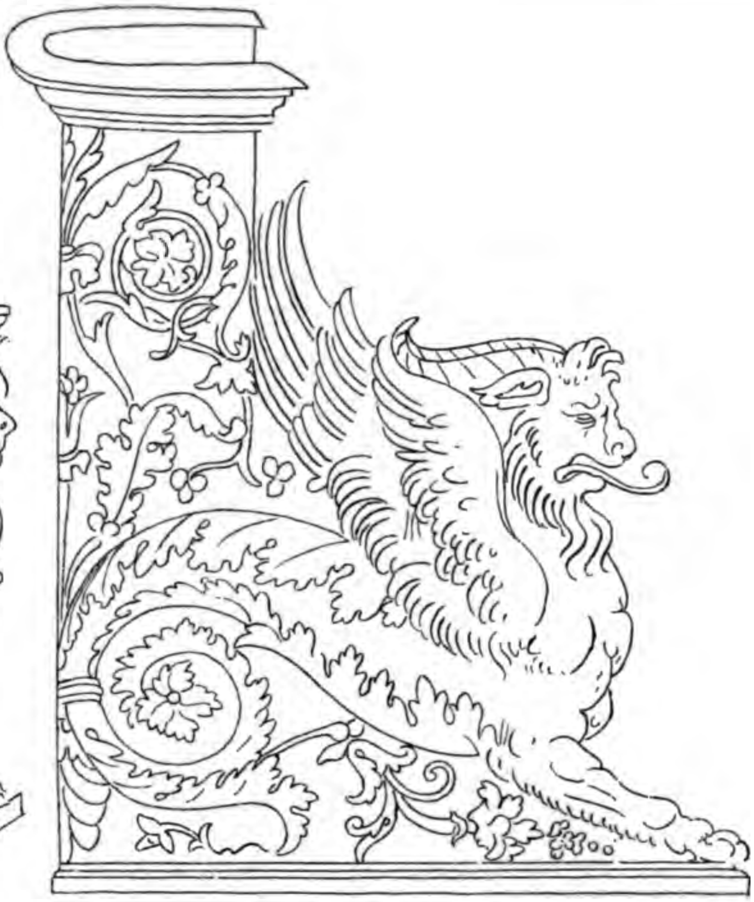
HALF SIZE OF ORIGINAL.



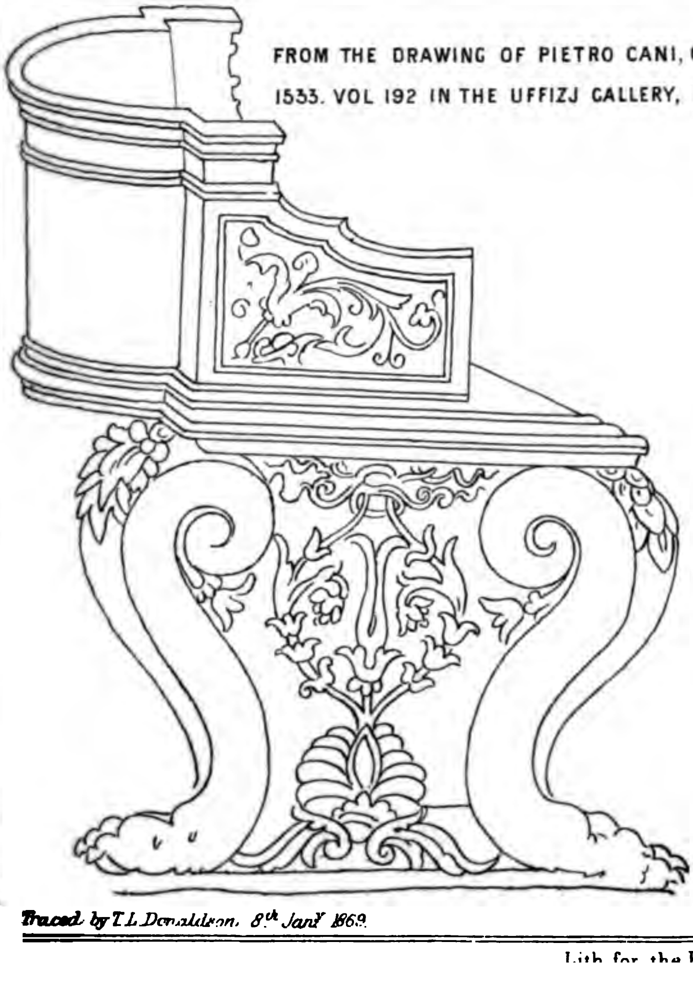
Traced by T. L. Donaldson. 12th Jany 1869

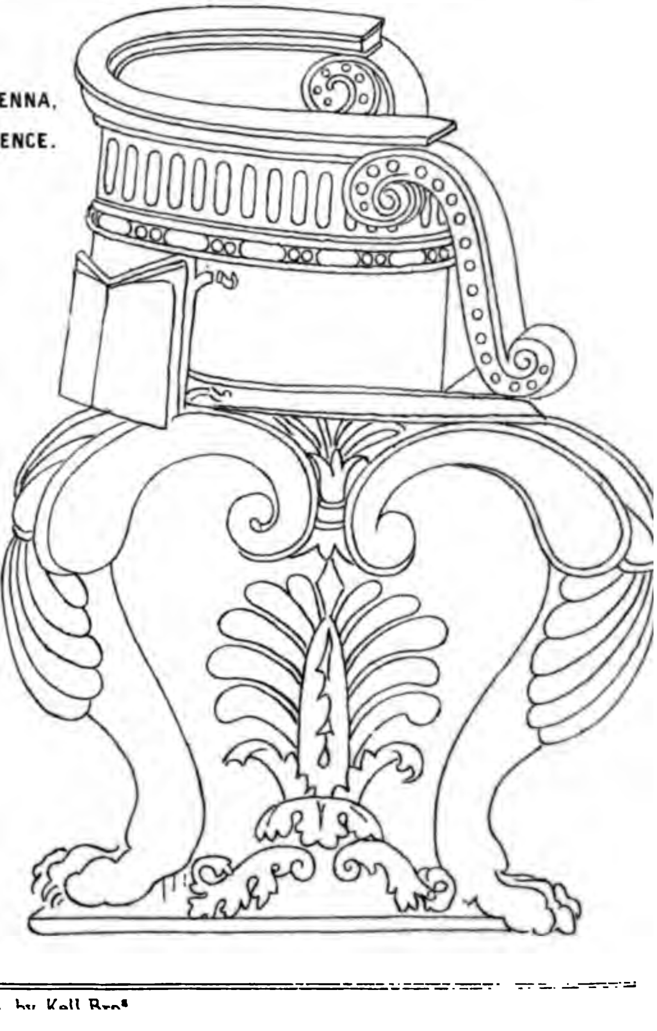
Lith. for the R.I.B.A. by Kell Bros.





FROM THE DRAWING OF PIETRO CANI, OF SIENNA, 1533. VOL 192 IN THE UFFIZJ GALLERY, FLORENCE.





Traced by T.L. Donaldson, 8th Jany 1869.

Lith for the R.I.B.A. by Kell Bros

of Athens! Among these a curious and improbable plan of a circular Temple of Apollo! copied by me, and the sketch of a figure with the body of a man and the lower part consisting of a fish's tail instead of legs. This particularly attracted my attention, for in the excavations, carried on of late years, a court has been exposed, which was shown me when I was at Athens in 1868 by our Honorary and Corresponding Member the Signor Kaftangioglu. It has some eight or ten colossal figures of this same design on pedestals, as if surrounding a spacious area.

There are drawings of buildings and constructions from Epidaurus, Athens, Lacedæmon, Delphi, Aiton in the Corinthian Gulph and Cythera. There is a remarkable and ridiculous elevation of the monument of Philopappus making it convex on plan and not concave as it really is (see Stuart's Athens, vol. iii), with a quadriga below detached from the building. There are representations of many Cyclopean walls, and some very fine drawings of the sculptures on the pedestal of the Trajan Column and outlines of twenty fanciful Corinthian capitals in the cinque-cento style, like a series of the same character among the drawings in the Uffizj library at Florence.

My next enquiries were made at the Vatican library, where I had always understood that many drawings of past architects were to be found, and where I was assured by a friend, that he had seen a considerable number by Pirro Ligorio. I was however told by Monsignore Cardinale, the principal librarian, that no architectural drawings whatever existed, an assertion which appeared to me to be most extraordinary; but the rich treasures of this vast collection are acknowledged to be very inaccessible to strangers.

It is well known, that there is preserved in St. Peters the large model prepared by Sangallo, as also numerous drawings and documents connected with the fabric. But these, I learned on enquiry in the superb Sacristy, required by a recent regulation the express leave of the Pope or the Cardinal Secretary of State. My friend Joseph Severn, Esq., the British Consul, did me the favour of writing to Cardinal Gonsalvi, requesting that permission might be given me to consult them, to which application he received the following reply:—

"Illustrious Signore—With your letter of the 12th inst. accompanying the application of the Signor Donaldson, an English Professor of Architecture, and recommending its object, which was to have permission to consult the designs and models of the great Masters of Architecture, existing in the Cupola, I should willingly have complied as to his request, had I not been precluded doing so by a general and permanent exclusion, after the lamentable events of the autumn of 1867, which forbad any one without exception being allowed to go up there.

I am sorry for this circumstance, which prevents my granting the permission requested, and with sentiments of special esteem,

I am, Illustrious Sir, your faithful Servant,
G. C. Antonelli."

Rome, 18th March, 1869.

The Signor Giuseppe Severn,
British Consul in Rome.

And so ended my hopes in that quarter.

I heard, that I might meet with some drawings in the Angelica Library of the Church of S. Augustin, and which is one of the most remarkable at Rome, after the Vatican, the Minerva and Barberini Libraries; but unfortunately it was closed while I was at Rome. I went also to the Library in the Monastery attached to the fine Church of the Minerva; but there my search was in vain, for the Benedictines have no architectural drawings in their collection.

Such are the particulars which I was able to glean in Italy. These memoranda, however imperfect, may, I trust, induce others to complete the information we require by further researches. Naples may possibly possess some such drawings; and occasionally there may perhaps be found in private or public collections in others of the noted provincial cities of Italy, the centres in former times of distinguished schools of art, each with its own distinctive style, teeming with enthusiastic artists, vigorous in intellect, of rare original talents, prolific in ideas and ready with their pencil. For instance, many may possibly still be found by Palladio in Vicenza: and somewhere in Venetia a portion of the profusion, that must have been made by Scamozzi. I have seen a volume of some curious sketches at Milan by Bramante, in one of the glazed cases of the Bibliotheca Ambrogiana. In most of the Academies of Fine Arts, as at Venice, Bologna, Florence, &c. I found series of designs by those students, who had gained medals and prizes during recent years, but they are rarely of any great merit.

Having got thus far in putting together my notes, it has occurred to me, that it might be useful to complete the information on this subject, as well as I could, by including in one notice the information procurable in regard to collections in other countries and in England.

GERMANY.

At BERLIN are preserved by order of the Government the drawings left by Schinkel; and at Munich the series of studies made in Greece by the friend and fellow traveller of our lamented colleague Professor Cockerell, Herr Gaertner. He was one of the joint discoverers of the Temples at Aegina and Bassæ near Phigaleia, the sculptures of the former of which are now in Munich and of the latter in the British Museum.

FRANCE.

PARIS. It is impossible to omit notice, however casual it may be, of the noble collection of drawings preserved in the Academy of Fine Arts. It contains the matured studies of restorations of classic buildings by the accomplished travelled Students of the Institute. There is also in the department of the Minister of State the incomparable series of drawings, prepared by his order, of the Monumental Edifices of France, the result of most conscientious study of the several remains, and exquisitely rendering those " chefs d'œuvre" of past times. I have no doubt, that in the fine collection of ancient drawings, preserved at the Louvre, many rare productions of the ancient masters may be found.

LILLE. In the Museum is a curious collection of architectural drawings, I presume by Vasari, and of which I gave a description in a Paper read at our Meeting 14th November, 1853.

ENGLAND.

LONDON.—The print room of the British Museum is very rich in illustrations of Greek buildings. It is, however, to be regretted that they are not yet regularly classified and kept together, and that no special proper catalogue exists of them. I had occasion, in 1830, to consult those then possessed by the Museum through Lord Elgin, and gave a list of the drawings in the note to my description of the subterranean chamber at Mycenæ, p. 28 in the fifth, or supplementary volume to Stuart's Athens. Besides those, I now find that important additions have been since made by the Dilettanti Society, and others. There are eighty-one drawings by W. Pars, 1764—1767, twenty-three of the views being mounted on boards, and fifty-eight in a volume, also one volume of sixty-one drawings of sculptures of the Parthenon, tinted in sepia, one volume of the original drawings for the Ionian Antiquities, published by the Dilettanti Society, one volume of copies of the 44 drawings originally made by Carrey, (who died in 1726, aged eighty years,) by order of M. Nointel, the French Ambassador at the Porte, before the Parthenon on the Acropolis was damaged by the bomb of the Venetians. They are executed in red chalk and black-lead pencil, and are very precious, as shewing many exquisite figures of the pediments, which then existed and now are lost. There are also three drawings by Wolfenberg. There is one folio of twelve plans, elevations and details to a large scale, beautifully made out of the Parthenon and other buildings in the Acropolis and Sicily—I presume by Lusieri, or his assistants; one volume of eighty-four loose sketches by Ittar of Catania, who was employed by Lord Elgin; one box containing thirteen volumes and a parcel of loose sketches of Sir W. Gell, principally in Greece, but also some of other places through which he passed. The views are of towns, ruins, landscapes, inscriptions, mixed up with some few by other hands; one is a very fine sketch by Gropius, the Austrian Consul at Athens, consisting of a group of priests and Greeks in the court of a house. One of the volumes relates to the Alhambra, many of which are by other artists. Sir William Gell was an indefatigable worker; while his architects or companions were employed upon the buildings, he sketched the scenery around or special features, and took the bearings of the prominent elevations of mountains, and bits of walling, &c. Some are in mere outline, others carefully shaded in lines. Although by no means a brilliant artist, he was a very pains-taking exact draughtsman, and employed the camera lucida to a great extent. His vast stores of knowledge were at the service of every traveller and enquirer. Amice vale! Among all these drawings there are many containing authentic original matter, which has never been published.

In the department of Oriental Antiquities, under the care of Mr. Birch, are six volumes of the fine original drawings of Assyrian Antiquities, prepared for Layard's noble work on this subject, by himself, Boutcher and other artists, exquisitely rendered, and one smaller volume of illustrations, ably drawn by Churchill. In the department of Greek and Roman Antiquities are the drawings prepared for Sir C. Fellows' work on Lycia, Caria and Lydia, by Scharf. Being thus distributed through various departments of the establishment, these precious treasures of art escape the researches of many, however great may be the courtesy of the keepers of these records to show them, *when asked for*.

I owe to the intelligent and kind suggestion of Mr. Wyatt Papworth the knowledge of the fact, that there is a vast mass of very important and valuable drawings, prints, &c. of a topographical and structural character in the Book Department of the British Museum, and which I have examined. The titles of the subjects are given in the special "Catalogue of the MS., Maps, Charts and Plans of the Topographical Drawings of the B. M.," 8vo. London, 1842, 2 vols. They are classified topographically, according to Counties, Towns and Parishes; but it is to be regretted, that there is no index of the names of the Artists and Draughtsmen, which is indispensable for those whose researches are primarily directed to the persons. London is very richly illustrated, as *e. g.* complete series of drawings of Hawksmoor's Churches—Limehouse, Bloomsbury, Spitalfields, S. Mary's Woolnoth, and of Flitcroft's S. Giles. There are drawings by T. Sandby, Nash, D. Alexander, Architect, and the Rev. Thos. Kerrick, who appears to have been as indefatigable a sketcher, as our late lamented Hon. Member the Rev. Mr. Pettit. And the Counties have the like useful records. With a nominal index this catalogue would have its usefulness vastly increased, and it is to be hoped the principal librarian will have that prepared, as it can now be done with little difficulty.

The SOANE MUSEUM, in Lincoln's Inn Fields, has a very fine collection of original architectural drawings of buildings in every country on the globe, and which I have been enabled to examine thoroughly, through the courteous kindness of its Curator, Joseph Bonomi, Esq. In fact, there are about one hundred volumes of drawings, besides those contained in portfolios. I shall commence my notice by reference to three volumes of sketches and exquisitely finished drawings in outline, collected for publication by the late E. Dodwell, Esq., the well-known traveller, archæologist, and author. They were presented through the late Sir A. or Lady Crichton to Sir John Soane, in 1834; some bear the date of 1809, and others of 1831. Various of the free-hand sketches seem to have been made by Mr. Dodwell himself, and the rest are by Italian artists employed by him. Most are by the Signor Vespignani, the distinguished architect of the present Pope, and honorary and corresponding member of this Institute. Two of the volumes illustrate Cyclopean walling principally in Italy, and also Etruscan edifices, as tombs, city gates, &c.; and the third has very fine coloured representations of the buildings of Pompeii and the regions about Naples, and in Calabria. After Mr. Dodwell's death, a volume of Cyclopean or Pelasgic remains was published without text; it is now out of print. Those were by another Italian artist, and consist of views only, freely treated, but very accurate. The original drawings of these do not appear. One volume contains illustrations of the Trajan and Antonine columns with the sculptures drawn and shadowed in sepia, by Caldari, otherwise called Polidoro Caravaggio. One volume of thirty-six drawings of the theatre Tor di Nona, Rome, by the Cavalière Fontana, with his signature attached to each; and another of drawings of the Coliseum, with plan, elevation, section, and its restoration by Fontana, and design for a chapel and cloister to occupy the whole of the arena. Drawings by Vasari, Panini, Bibiena, and by Fr. Piranesi of temples at Pæstum. Fifty-five volumes of original drawings by the Adams brothers, and the artists employed by them, and containing designs for the Law Courts, Palaces, Houses of Parliament and other buildings, and particularly for erections on the east side of Lincoln's Inn Fields: some ceilings by Richardson and Manocci, designed or drawn by Italian artists for the Adams', and details of plate, furniture, &c. One volume, by James Gibbs. Several packets of different parts of Somerset House, by Sir W. Chambers. One volume has fine plans, elevations, and sections of Hampton Court, with original designs thereof, attributed to Wren, and drawings of Greenwich Hospital, as originally designed by I. Jones, and enlarged and added to by Wren; and original project for S. Paul's Cathedral by Sir Christopher Wren, many containing his autograph notes and dimensions. There is also the court order book of Sir Christopher, with various documents, bills, and accounts, to which his signatures are attached; but whether they are original or copied, it is difficult to decide. One volume by Hawksmoor, and one by G. Dance and his father, with miscellaneous drawings of the Mansion House in the City; a volume of J. Thorpe; two volumes by Thomas Sandby; drawings by Tatham and Playfair; also a volume of Mexican antiquities, prepared by Mühleupfordt for publication. Besides a numberless mass of drawings made for Sir John Soane himself by his pupils, Joseph Gandy, G. Basevi, G. Bailey, and other artists of his own buildings and projects, there are four large folios containing drawings of the Bank of England, and which are very fine and effective. In fact, there is a profuse mass of striking matter and authentic documents in this collection; most of it unpublished, and much that deserves to be more known. It is to be hoped, that the Trustees will, without further delay, publish a catalogue, and thus render these treasures more available for public inspection and study. From want of this, they are at present unappreciated and seldom alluded to.

The Dilettanti Society of London possess a valuable series of the beautiful original drawings of Greek buildings, made for them by P. Gandy Deering and Bedford, afterwards engraved in their volumes of antiquities. There are also numberless sketches by their colleague, Sir W. Gell, and more recent drawings by Mr. Pullan, of the Temple at Teos. It is to be regretted, that these fine productions of artistic skill are not more carefully arranged and bound up together, and deposited in the library of the British Museum, to complete the series already there—the gift of this enlightened Society, who by their researches and publications, have rendered such essential service to Architecture, and at great outlay, have carried out most important researches in Asia Minor and Grecia propria.

I must also call attention to the very important series of paintings, drawings, photographs and models of buildings in our Eastern possessions, preserved in the Indian Offices, Downing Street, and to which very important accessions are being constantly made by the enlightened policy of the Secretaries of State for India, the Council and their officers, who afford every facility for their inspection.

In the Duke of Devonshire's Palladian Villa at Chiswick, there is the most interesting collection, made by Lord Burlington, of Palladio's drawings: a catalogue of which, drawn up by Mr. A. Poynter and myself, is in the library of this Institute, dated 17th November, 1845.

OXFORD.—There are, at Worcester College, fifteen drawings, mounted on rollers, and thirteen on sheets, of Inigo Jones' design for Whitehall Palace. And at All Souls' College, three volumes of Sir Christopher Wren's drawings, a catalogue of which was drawn up by Mr. James Elmes. And in the Radcliff Library, which was designed and built by James Gibbs, there are many original drawings by him of St. Martin's Church, and of his other buildings. A catalogue of these collections is at Oxford, and a copy exists in the library of this Institute, drawn up by G. Gutch, Esq., Fellow, and dated, 6th February, 1836.

I cannot conclude this imperfect summary without calling the attention of our members to the valuable series of admirable original drawings existing in our own library, and too generally unknown, although they are briefly noted at the end of our Catalogue, page 159. There are original sketches of Chambers and his pupil Yenn; A. Leclère's series of the Portico of the Pantheon at Rome; J. M. Lockyer's forty inimitable coloured drawings of Mosaics, Floors and Marble Inlays; Henry Parke's masterly drawings of Egyptian, Grecian and Sicilian Buildings, measured from the monuments themselves; Athenian Stuart's Sketch Book; Joseph Wood's twenty-eight original drawings in France, Italy, &c., and series by D. Mocatta; and of plans, elevations, sections and details of Turkish and Early Christian Buildings by M. Texier; others by J. J. Scoles, Jas. Savage, H. L. Elmes, Pugin, Thos. Little, &c. &c. Our diligent librarian is now engaged in arranging them, and we may expect to be furnished ere long with a complete catalogue.

I must express the hope that those, who are connected with architects, will, as they pass away, use their utmost influence to induce the friends and relatives to enrich our stores by some contributions of their drawings, in order to render most complete such mementos of their skill and genius, and thus add to the memorials, which form the basis for the history of our Professional Worthies.

THOS. L. DONALDSON.

AN INDEX TO THE DRAWINGS IN THE MUSEUM OF SIR JOHN SOANE,

(I. BONOMI, CURATOR).

Adam, J. and R., Architectural, 1756-94	Vols. 27
Adam, Jas. (?) Decorative	28
Adam, Robt., Landscapes for Panels	48 drawings
Bailey, G., Pupil Drawings	unbound
Basevi, G., Pupil Drawings	unbound
Bedford, Architectural	1
Belanger, Architectural, 1766 (?)	unbound
Bibiena, Scenes for Theatres	framed
Brettingham, W., Architectural	1
Caldara, P., Colonna Trajana	1
Capon, W. London Antiquities	Pennant
Chambers, Sir W., Somerset House	many packets
Chambers, Sir W., various Architectural	many packets
Coneri, A., Disegni, 1500	1
Cooper, G., Llandaff Cathedral, 1808	
Dance, G. sen., Newgate, City Churches	7
Dance, G. jun., Architectural	a cabinet full
Dalton, R., Views in the East (very poor) 1791	1
Devis, A., Sketch Book, 1815	1
Disegni Dell' Architettura, 1400 (?) vellum	Vol. 1
Dodwell, E., Grecian Remains, 1809-31, by Vespignani	3
Drake, Plans of a House	1
Fontana, C., Teatro Tor di Nona	1
Fontana, C., Anfiteatro Flavio	1
Fortification, Illustrations of Italian 17th Century (?)	1
French Artist's Studies	1
Gandy, J., Architectural, 1798-1800	1
Gandy, J., Soane's House and Museum, 1825	1
Gandy, J., Soane Sarcophagus, 1826	1
Gibbs, Jas., Remarks on Buildings in Rome	1
Gisleni, G. B., Varii Disegni dell' Architettura	1
Gribelin, S., Traité d'Architecture	2
Hawkesmoor, N., Architectural	various
Hindu Costumes	1
Italian Designs	1
Italian Views, by Italian Artists	1
J. B. J., Textile Designs, 1740	1

Jones, Inigo, Architectural	a few
Jones, I., Translation of Scamozzi, ascribed to	Vol. 1
Langley, B., Saxon Architecture	1
Lecture Drawings, Royal Academy (very large)	about 650
Lecture Drawings, Royal Academy (smaller)	about 350
Machines, Drawings of	1
Manocci, J. G., Arabesques (Adams)	2
Martin, J., a Treatise on Painting (1690)	1
Major T., Ruins of Pæstum, 1768	1
Montana, G. B., I Sette Libri dell' Architettura	1
Montana, G. B., Tempii	2
Mühleupfordt, E., Mexican Remains, 1832	1
Nash, F., London Antiquities	Pennant
Nollekins, I., Monuments	1
Ornaments, Italian	1
Ornaments, Ancient Friezes	1
Ornaments, or Designs for Dutch Gardens, vellum	1
Parke, H., Pupil Drawings	1
" Pensées," French Drawings and MSS.	1
Persian Costumes and MSS.	1
Perspective, a MS. and Drawings, by F. O. (?)	1
Piranesi, Francesco, Framed Drawings of Pæstum	
Playfair, J., Architectural, 1787	1
Reveley, W., Tracings	1
Reynolds, Sir J., Sketch Books	2

Richardson, G., Ceilings (in Adams)	various
Roubillac, Monuments	a few
Rysbrack, M., Monuments	a few
Sandby, T., Architectural Designs	Vols. 2
" Sborriato," Historical Sketches	1
Schumacker's Monuments	a few
Soane, Sir J., Bank of England	4
Soane, Sir J., Law Courts	cabinet full
Soane, Sir J., Parliament House	cabinet full
Soane, Sir J., Chelsea and Board of Works	6
Soane, Sir J., Private Houses	4
Shepherd, J., London Antiquities	Pennant
Sampson, G., Bank of England, 1732	1
Stone, H., Sketch Book, 1638	1
Stone, N., Italian Sketches, 1648	1
Stukeley, W., Sacred Antiquities	4
Tatham, C. H., Roman Sketches, 1757	1
Tatham, C. H., Tracings and MSS., 1794-6	1
Thorpe, John, Architectural, Time of Elizabeth	1
Turner, C., Drawing of Soane Bust	1
Tesi, Lud., Arabesques (Adams)	1
Vespignani, V., Grecian Remains (Dodwell)	3
Wren, Sir C., Architectural	2
Wren, Sir C., Court Order Book	1
Zucchero, F., Bibbia Sacra	1
Zucchi, Framed Drawings	

Excluding many Miscellaneous Sketches not yet classified.

After some remarks from Mr. PAPWORTH, Fellow, and other members, during which attention was called to the collection of architectural drawings in the " King's Library" of the British Museum, and to the Egyptian drawings made by Mr. James Burton, who travelled with Bonomi in 1832-3,

SIR DIGBY WYATT said:—Having examined with a good deal of care the interesting designs preserved at Bologna for the façade of the splendid Church of San Petronio in that city, which seem in some unaccountable way to have escaped Professor Donaldson's usual extraordinary and all-comprehending viligence, I may be permitted to bear my testimony to their excellence and interest. With the work of Palladio, I am bound to confess, I felt disappointed. I found his scheme to be largely conceived; and the architectural leading features very carefully proportioned, but drawn with a heavy hand, animated apparently by little imagination. In all those parts in which usually the greatest demands are made upon an architect's invention, and in those ornamental characteristics which most call for skill and exactness in the draughtsman, Palladio in these drawings shows himself as by no means a ready designer. [Professor DONALDSON. In the human figure.] Not only in his treatments of the human figure, but in the combination of sculpture generally with architecture, Palladio shows a feebleness very uncommon with most of his leading contemporaries. Even the regular architectural members are not well drawn, although their proportions are very good. Some designs by other architects, though not so bold in conception as those of the Palladio, are far better in point of drawing, and in the exhibition of that special knowledge by which alone, in this case, the beautiful sculpture by Della Quercia and others, which already adorned the chief doorways of the façade of the church, could be appropriately framed. According to the best of my recollection, Vignola's design was far better than Palladio's, and the finest of the series was the one by Francesco Terribilia, which was approved ultimately by the Senate. I have also examined with care the collections at Florence alluded to in the Professor's most interesting paper. In these as might be expected more attention appears to have been paid to ornamental drawing. The Renaissance architects of Italy were often designers for every variety of industrial art, as well as in many notable cases painters or sculptors—especially such men as Pierino del Vaga and Montorsoli the Florentine, whose united talents were exerted upon the creation of the celebrated Villa Doria, at Genoa. They were magnificent draughtsmen, and drawings especially by the former, are preserved in great numbers at Florence and elsewhere. Others, such as Cremonini, Marco da Faenza, Campi and Aspertini were great masters of ceiling drawing, and their sketches and plaster details are perhaps the finest I have seen anywhere. Bramante, to whom Professor Donaldson has specially alluded, was a masterly draughtsman; and so were Baldassare Peruzzi, Francesco Salviati, the Zuccheri, Prospero Fontana, and "Nicolo Abbate" and the brilliant artists who came to France at the invitation of Francis I., and influenced the whole school of architectural drawing of that country. In England there are one or two sets of very interesting drawings which may have escaped Professor Donaldson's researches. One is a very valuable set by Rubens, which were in the possession of the late Marquis of Bredalbane, and which comprised, when I saw them shortly before the Marquis's death, a number of fanciful designs for wood and stone carvings and house fronts and for steeples, some of the last-named being of a most curious kind. He seemed to have been constantly thinking of the Cathedral of Antwerp and its spire, and turning its mediæval in renaissance detail. There is also the beautiful little pocket book of Inigo Jones in the possession of the Duke of Devonshire, which was printed by the predecessor of the present Duke for private circulation among his friends. I enjoyed an opportunity of examining carefully the copy given to the grandfather of the present Duke of Hamilton, and was delighted with the little volume, which is now very rare. As we do not possess a copy of it I think it would be most desirable some day to petition the present Duke, if he should have any of the impression left, to favour the Institute with the donation of this little gem, which is a perfect facsimile, even to the binding, of its precious original. [Professor DONALDSON. There is a copy of it in the British Museum.] It is a book which we should certainly have in our library. There is another set of drawings in the British Museum extremely interesting now to architects, and which will every year become more and more so. I allude to the collection of drawings by Mr. George Scharf's father of old buildings in London. They comprise illustrations of the topography of London in all directions and record numbers of buildings and aspects of streets which are every day disappearing. These are some of the few points which suggested themselves to my mind as possibly useful addenda to the learned Professor's paper, and I am sure my respected friend will forgive me for having mentioned them. Before sitting down I would willingly propose a hearty vote of thanks for the two papers with which Professor Donaldson has favoured us this evening; but I can, unfortunately, only propose half a vote, since it was not my privilege to hear more of the first of the two contributions than a few words of its conclusion. From the plaudits with which it was received I cannot doubt that plenty of the members present will be ready to make up for my shortcomings. In such case my "moiety" may be looked upon as contributed most willingly. Before sitting down I would venture to remind some of those who may have forgotten the fact, that in this Institute, we possess a volume of original drawings by Italian architects of considerable interest. Amongst them are some valuable drawings attributed to Bernini, Bibiena, Borromini, and other clever and facile Italian architects and designers. There is also a very interesting sketch of the interior of St. Peter's with the cross lit up. It is altogether a capital book, full of spirited and valuable drawings, and is well worthy the attention of students. In our portfolios, too, we have many of the works of the Italian draughtsmen, who drew ornaments for Adams and Chambers; and some of their arabesques are exquisitely sketched.

Professor DONALDSON.—I should say that I have avoided archæological drawings altogether. It would open such a wide sphere that I have adhered to architectural drawings alone. Among the collection in the British Museum, there are many monumental drawings of London and other parts, but to have introduced these would greatly have enlarged the sphere of my paper, and I therefore thought it better to limit it to works of a purely architectural character.

Sir DIGBY WYATT.—I alluded particularly to Scharf's drawings as furnishing records of many buildings that have now entirely passed away. It is wonderful in how short a time the whole architectural aspect of a city may be almost entirely changed, and the bulk of its monumental landmarks disappear.

The vote of thanks to Professsor Donaldson having been seconded by Mr. WYATT PAPWORTH,

The CHAIRMAN, in putting the vote of thanks, said:—The subjects treated of in the first paper are novel to me, but they are of considerable interest, and may be regarded, I am sure, as authentic records and additions to our knowledge of the history of past times. One thing struck me very much, viz., that in one town Augustus should have built no fewer than eighty temples (Professor DONALDSON. In Rome). Even for the city of Rome it was an enormous number, and I can only imagine that some of them must have been of a temporary and ephemeral character. The records laid before us this evening bring to light the savage usages of the Roman people, and though in some respects they may have been equal to us in appreciation of art, it is quite certain we have greatly advanced beyond them in civilization. My friend will excuse me doubting whether a parental government like that of Augustus is always the most favourable for the production of the greatest and noblest works. We may point to times in our own history in which, without the intervention of any great government, we have produced some of the noblest and most enduring works which the world has ever seen—not so full of art perhaps, but in durability and greatness never surpassed. With regard to the second paper, I am quite sure it has been a labour of love with Professor Donaldson, who never omits any opportunity which presents itself for extending his researches into the history of our art, which he always presents in a manner agreeable, instructive, and even entertaining to us. I am sure the motion which I have now to submit will be agreed to with the utmost cordiality.

The vote of thanks was unanimously accorded, and the meeting adjourned.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 28th day of March, 1870, **Charles Barry**, Vice-President, in the Chair, the following Papers were read :—

MEMOIR OF THE LATE WILLIAM BURN, FELLOW.

By Professor **Donaldson**, P.P., Hon. Sec. For. Corr.

We have recently lost, by the death of Mr. William Burn, one of the earliest members of our body, he having joined the infant Institution in 1835, now thirty-five years ago; he was one of the Nestors and most highly respected members of our profession, and the last of a generation of Scotch architects, who may be said to have been represented by Thomas Hamilton, William Playfair, Gillespie Graham and himself. It is an old remark, that the memory of an artist or an author most generally rests with his works, so few are the striking incidents, that occur to men in such pursuits. And happily so! For then is a man able to concentrate his faculties and his feelings undisturbed, except by the ordinary cares to which everyone must be subject more or less; and thus he can carry out into realisation his inspirations as a writer, an architect, a painter, or sculptor: whereas his powers must be materially affected if he be harassed by party conflicts and passions, or by an uncontrolled or too sensitive temperament or mental alienation, which disturbed and overthrew the equilibrium of a Blake, the painter Barry, or a Haydon. Our friend was spared the wild distractions of such vicissitudes, and with a calm judgment, firm will and considerable wisdom, held on his way, looked up to and valued by his neighbours, his friends, and the profession. There is something to be gained by the contemplation of such a character, and a lesson to be learned in considering the works, which proceeded from such a mind. Brilliant episodes I have none to offer, but the simple recital of the calm common-sense career of a professional brother.

Mr. Burn was born on the 20th December, 1789, in Edinburgh; and the name of that Northern capital of the British Isles, and at that period, gives rise to many reflections. It has been called the Modern Athens, and not without reason, whether physically or intellectually considered. Athens rises out of a plain, its citadel crowning the summit of a rock, with its noble Parthenon, which shows itself majestically to widely distant points around. It is bounded by considerable hills, and four or five miles off is its port of the Piræeus, an indentation in the shore line of the Æginetan Gulf. And within no large circuit it has witnessed many a bloody conflict with Greeks and Persians, for its own supremacy or the liberty of the whole fatherland. The old town of Edinburgh, in like manner, is situate on the middle of a ridge, on the highest craggy precipitous point of which stands its Castle, which can be seen with its varied outline from far as a proud and commanding object in the landscape. At the distance of two miles lies the harbour of Leith, on the bank of the Firth of Forth, an inland gulf as that of Ægina. Such are the corresponding physical features. And as Athens intellectually ruled the literature of Greece, and as its poets, its orators and its writers gave it a high renown in antiquity among the rival and highly cultivated Doric and Ionian states, so Edinburgh, in the first quarter of this century, could vie for brilliancy of literary reputation with the old institutions of England and its scholastic foundations, and attracted men of the highest talents and energy of purpose. Such were David Hume, Dr. and Adam Black, Principal Robertson, Hugh Blair, J. Playfair, Dugald Stewart.

And it could originate an Encyclopædia, and periodicals such as the "Edinburgh Review" and "Blackwood's Magazine" with its famous Christopher North. And its university has sent forth men of the bar, as Macintosh and Brougham; and those of varied powers, as Jeffrey and Sir Walter Scott, Cockburn, Professor Wilson, Tytler the historian a choice and loveable man, Lord Chief-Justice Clerk, Lockhart, Peter Robertson, Thomas Chalmers, Sir D. Brewster,—sparkling men of the day, and recognised as such here in the South.

Such a reference is not without its point; for it was in those stirring times of intellectual progress and among men of like high attainments, that Mr. Burn was born and passed his early years. Himself a decidedly pronounced man in politics, and particularly of the then dominant party of the Tories, he mixed in social life and was on terms of intimate friendship with men of all parties, whether Whig or Tory, receiving them at his hospitable board, where, as the poet says,

> "His humour was baith frank and free,"

for no one could tell with greater spirit many a good story about the auld Scotch lairds and their vagaries.

Mr. Robert Burn, the father of our Fellow, united the occupations of builder and architect, one of his works in the latter capacity being the Nelson Monument of the Calton Hill, which by a little artistic treatment might be rendered worthy its prominent position and surroundings, for in the mass it is an important object. Anxious to afford his son the best professional education, for which there were then few facilities in Edinburgh, he sent him up in 1808 to the then Mr. Smirke, afterwards Sir Robert, and who divided with Mr. Soane, afterwards Sir John, the supremacy of architectural practice and taste. He remained with him three years, was one of his earliest pupils, and subsequently joined by C. R. Cockerell and Lewis Vulliamy, both well known to fame. Under his master he had the opportunity of studying the soundest construction in various important works then carrying on, as at Lowther Castle and Covent Garden Theatre, rebuilt by John Kemble, the celebrated tragedian, after a fire.

In his earliest productions, Mr. Burn seems to have been influenced by the strict Grecian taste of Sir Robert; but in his later ones he availed himself of the utmost liberty, without however transgressing what might be considered correctness of treatment, freed from slavish adherence. And this is the just freedom which every architect should claim, if he has any pretence to independence and originality; and it is by the proper or improper use of this liberty of action, that his reputation must stand or fall.

His earliest important work seems to have been the Custom House at Greenock, about 1816, and being then well launched in his profession, with every prospect of success, he was united in marriage to Miss Macvicar, with whom he passed fifty-four years of happy wedded union,—his partner in weal and woe, and to whose tender and devoted attentions he owed so much during a long season of suffering in the later period of his life. For twenty-eight years he pursued a brilliant career in Edinburgh, patronised by the highest nobility and aristocracy, and devoting himself specially to domestic architecture. And so successfully did he study the peculiar conveniences of that class of building and mansion-house architecture, by new combinations of comforts in the residences of his patrons, that he became the almost exclusive designer of the country houses for the nobility and gentry throughout Scotland.* Finding his business thus increasing and his reputation extending in England, he associated with himself

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* This system has been ably illustrated in a work entitled, "English Gentleman's House," 8vo. London, 1865, by our Fellow, Mr. R. Kerr, and in which he recognises the special ability of his countryman, Mr. Burn.

Mr. David Bryce our Fellow, who has since erected many fine buildings in Edinburgh and elsewhere. At length in the year 1844 he settled in London, Mr. Bryce succeeding, to a great extent eventually, to the Scottish connection, and Mr. Burn henceforth practising principally in these parts.

It is impossible to avoid noticing, as a characteristic feature of our friend, the deep and loyal interest, which he took in the antiquities of his native country. The early domestic architecture of Scotland forms at once the most picturesque and striking objects in the scenery of that land; and the massiveness of its construction has ensured it a perpetuity, which can scarcely be matched in this. There is hardly a county, where the traveller does not meet stone-built towers, on the shores of the lochs or on the crags of the mountain side; baffling the stormy elements, as surely as the very rocks on which they solidly rest: and combining with the trees and foliage of the scenery, carrying the imagination far back into Scottish history and its feudal times. Then the dwelling of the farmer and the palace of the chieftain was unsafe—nay, even the very church itself; unless it had the solid strength and surer military arrangement, to resist the attack of clan against clan. There is the solitary, sturdy, rude peel or tower house or keep of the border; in form, a square frowning mass, its entrance-door high above the ground level; with its single room and occasionally a small closet in the angle on each floor, and the winding newelled stone stair from bottom to top—and of which Clackmannan Tower (see Billings' 'Antiquities') is a good example. Or there is the more pretentious Castle, of the fifteenth century, with its large hall in the centre, and two or three smaller chambers, with ribbed vaultings and its winding staircase, and large angle towers, with the pepper-box turrets of the upper floor, its high-pitched roofs and gable ends, often corbied or stepped, and its attic gabled dormers, giving a wildly picturesque and almost fantastic outline. Of such a class is Glammis; prior to the additions made to it by James Wyatt, about the beginning of the present century; or Castle Huntley in Perthshire, and others with their walls sometimes ten feet thick. Coming down to a later period, we have Linlithgow Castle, with its mixture of Tudor and Renaissance; and Falkland and Crichton Castles, with their more debased details of the time of James, and having the ample courts, dressed window openings, elaborate yet rude cornices, fine chimney pieces, and lofty chimney shafts highly decorated, making a busy grouping on the sky line.

All these architectural features are distinctly different from our own, and we recognise a foreign influence—more probably French; where we have a similar feeling of general treatment with greater elegance however; for the Scotch architecture of these periods, seems to be an importation, carried out in detail with grosser feeling, and executed by ruder hands. These instances of his country's architecture were familiar to Mr. Burn, who seems to have studied them with peculiar attention, and they appear to have formed the turning point of his taste and practice, and were by him often adopted with great success. This naturally led to the desire of seeing them illustrated in the same manner, as the antiquities of England had been by Britton; and between 1848 and 1852 appeared the volumes of Billings' 'Baronial and Ecclesiastical Antiquities of Scotland': carried out by the combined taste, intelligence, and spirited enterprise of the three B's—Billings, Burn, and Blackwood—the artist, the adviser, and the publisher. It is a most valuable contribution to the history of architecture, as well as to the archæological traditions of the north. This fine work consists almost entirely of views from points judiciously selected, and spiritedly drawn by the effective pencil of Mr. Billings. It is to be hoped that it will be eventually supplemented, as was originally intended, by another containing plans and other strictly architectural features. It is understood that its publication was mainly set on foot by the generous advance of £ 1,000. by Mr. Burn.

The list appended to this paper contains the principal works, out of the seven hundred he executed, during his long career, and consisting of public and private buildings, in every style of art, and in almost every county of the three kingdoms. Many of them are of vast extent and great cost, and none of them insignificant. He sketched with great accuracy and neatness, and following the example of his master, Sir Robert Smirke, he in his earliest works at least drew out the plans with the minutest accuracy, dimensioning with his own hand every part and detail with peculiar clearness, so as to afford no excuse to the builder for any mistakes or blunders. He was untiring in his endeavour to meet the wishes and tastes of his employers, and he has shown me numerous sketches of subjects, varying in plan, and even in style, to realise their wishes—nay caprices; and with rare ability and perseverance he would change and modify, until he had effected his object.

He was a man of the highest honour, integrity and independence; and so far from leading his clients into needless or extravagant outlay, he would demur to any unnecessary expense or an expenditure beyond his employer's means. And it is well known that, being required to prepare designs for an useless and costly object, by one of our leading nobility long since deceased, one of princely fortune, but who had an extravagant passion for building, he purposely delayed beginning and appealed to the son to advise his father to give up the intention. He never engaged in competition, being averse to incur the struggle of such contests with his professional brethren, and shrinking from the disappointment and annoyances attendant thereon. Conscious of his own position, indifferent to praise and not caring to subject himself to the undiscriminating judgment of incompetent critics, he never exhibited nor published any of his edifices. After his earlier years, he did not undertake large public buildings, but he occasionally acted as judge and referee in government matters: and held for many years the appointment of Consulting Architect for the Government in Scotland. He followed the sound principle of Vitruvius, "*not to seek employment, but to wait till he was sought;*" and this he could safely do, for you will see by the list appended, how each year brought fresh and numerous engagements, and left him few intervals of rest. In many instances he handed over to younger professional friends commissions offered to himself. He was frank and plain spoken, occasionally even to roughness; no flatterer; prudent in counsel, and firm in his opinion when once formed. He was somewhat impulsive, and gifted with great shrewdness and common sense, yet with strong prejudices, and intolerant of what is familiarly, yet not very elegantly, called "*humbug.*" I have the testimony of Dr. Cumming, of whose congregation he was a member, that he was heartily attached to the Established Church of Scotland, and indicated that attachment not only by words but by deeds. He had a slight figure with a strong constitution, till within a few years. Rain, snow, or frost, never kept him in; and up to eighty, Dr. Cumming says, he only once saw him wear an overcoat: and that must have been on some very piercing day late in the afternoon, when he usually took his constitutional walk in the park. His finely profiled head and piercing eye, and well-defined features, are powerfully shown in the expressive bust modelled, thirty years ago, by our mutual friend, the late Thomas Campbell.

The mansion of the Duke of Buccleuch, in Whitehall, may be quoted as an instance of Mr. Burn's individual taste, and of the manner, in which he could meet the requirements of his client, and give dignity to the town residence of a nobleman. It is in striking contrast with the hitherto generally mean and graceless box-like character of the usual London house of our nobility and gentry.

He died on the 15th February, aged eighty, leaving his widow, two sons and a daughter to survive him: and was buried in the Kensal Green Cemetery; his body being attended to its resting-place by his relatives and many attached friends and connections, who sincerely lament his loss.

P.S.—Mr. Burn's sons having embraced other pursuits, his practice devolves upon his nephew and partner, Mr. J. Macvicar Anderson, Fellow, with the assistance of Mr. W. Colling, who for many years had the management of Mr. Burn's office.

LIST OF THE PRINCIPAL WORKS OF THE LATE WILLIAM BURN, ESQ., ARCHITECT.

MANSIONS.

DATE.	PLACE.	CLIENT.	NATURE OR EXTENT OF WORK.
1820.	Blairquhan.	Sir David Hunter Blair.	New House and Offices.
...	Carstairs.	Henry Monteith, Esq.	Ditto Ditto.
1821.	Camperdown.	Viscount Duncan.	Ditto Ditto.
1823.	Riccarton.	Sir William Gibson Craig.	Ditto Ditto.
...	Niddrie.	Colonel Wauchope.	Ditto Ditto.
...	Lochend.	Captain Warrender.	Ditto Ditto.
1824.	Snaigow.	Mrs. Keay.	Ditto Ditto.
...	Strathendrie.	Hon. Mrs. Douglas.	Ditto Ditto.
...	Ratho.	John Bonar, Esq.	Ditto Ditto.
...	Brodie House.	Brodie of Brodie.	New Wing.
1825.	Pinkie.	Sir John Hope, Bart.	Alterations and Additions.
...	Laurieston.	Thomas Allen, Esq.	New House and Offices.
...	Pitfour Castle.	Sir J. S. Richardson.	Alterations and Additions.
...	Freeland House.	Lord Ruthven.	New House and Offices.
...	Drimfinn.	Hugh Maclean, Esq.	Ditto Ditto.
...	Dalhousie Castle.	Earl of Dalhousie.	Alterations and Additions.
1826.	Garscube.	Sir Archibald Campbell.	New House and Offices.
...	Hoddam Castle.	General Sharp.	Alterations and Additions.
...	Fettercairn.	Sir William Forbes.	New House and Offices.
1827.	Balcaskie.	Sir Ralph Anstruther.	Alterations and Additions.
...	Whittinghame.	James Balfour, Esq.	Ditto Ditto.
...	Clifden.	Sir George Warrender, Bart.	Ditto Ditto.
1828.	Dupplin Castle.	Earl of Kinnoul.	Ditto Ditto.
1829.	Faskally.	Archibald Butter, Esq.	Ditto Ditto.
...	Raehills.	J. J. Hope Johnstone, Esq.	Ditto Ditto.
...	St. Fort.	A. C. Stewart, Esq.	Ditto Ditto.
...	Milton House.	— Lockhart, Esq.	New House and Offices.
1830.	Drumlanrig Castle.	Duke of Buccleuch.	Alterations and Additions.
...	Tynningham House.	Earl of Haddington.	New House and Offices.
...	Hamilton Palace.	Duke of Hamilton.	Stable Offices.
...	Sprott House.	James Sprott, Esq.	New House and Offices.
1831.	Ardgowan.	Sir M. Shaw Stewart, Bart.	Ditto Ditto.
...	Kilconquhar House.	Sir Henry Bethune.	Alterations and Additions.
...	Bowhill.	Duke of Buccleuch.	Ditto Ditto.
1832.	Auchterarder.	James Hunter, Esq.	New House and Offices.
...	Dalkeith Palace.	Duke of Buccleuch.	Alterations and Additions, and New Conservatory.
...	Spottiswood House.	John Spottiswood, Esq.	New House and Offices.
...	Gosford.	Earl of Wemyss.	Alterations and Additions.
...	Posso House.	Sir John Nasmyth.	New House and Offices.
1833.	The Gart.	Captain Houston Stewart.	Ditto Ditto.
...	Netherby.	Sir James Graham, Bart.	Alterations and Additions.
1834.	Thurso Castle.	Sir John Sinclair.	Ditto Ditto.
...	Marchmont.	Sir H. P. Hume Campbell, Bart.	Ditto Ditto.
...	Monkrigg.	Captain Keith.	New House and Offices.
1835.	Tyneholme.	Patrick Dudgeon, Esq.	Ditto Ditto.
...	Aboyne Castle.	Marquis of Huntly.	Alterations and Additions.
1836.	Stenhouse.	Sir Michael Bruce.	New House and Offices.
...	Anton's Hill.	General Sir Michael Hunter, Bart.	Ditto Ditto.
...	Castle Menzies.	Sir Neil Menzies, Bart.	Alterations and Additions.

Date.	Place.	Client.	Nature or Extent of Work.
1836.	Knowsley.	Earl of Derby.	Boat House, Lodges, &c.
...	Duncrub.	Lord Rollo.	New House and Offices.
1837.	Lude.	J. J. McInroy, Esq.	Ditto Ditto.
1838.	Balcarres House.	James Lindsay, Esq.	Alterations and Additions.
...	Harlaxton Manor.	Gregory Gregory, Esq.	Ditto Ditto.
1839.	Muckross Abbey.	Rt. Hon. H. A. Herbert.	New House and Offices.
...	Falkland.	O. Tyndall Bruce, Esq.	Ditto Ditto.
...	Beaufort Castle.	Lord Lovat.	Alterations and Additions.
...	Whitehill.	R. B. Wardlaw Ramsay, Esq.	New House and Offices.
1840.	Thirlestane Castle.	Earl of Lauderdale.	Alterations and Additions.
...	Oxenford Castle.	Earl of Stair.	Ditto Ditto.
1841.	Stoke Rochford.	Christopher Turnor, Esq.	New House and Offices.
...	Seacliffe House.	George Sligo, Esq.	Ditto Ditto.
1842.	Galloway House.	Earl of Galloway.	Alterations and Additions.
...	Rauceby.	Anthony Wilson, Esq.	New House and Offices.
1843.	Cairnhill.	Colonel Ferrier Hamilton.	Alterations and Additions.
...	Prestwold House.	C. W. Packe, Esq.	Ditto Ditto.
...	Mertoun House.	Lord Polwarth.	Ditto Ditto.
...	Banff House.	Sir James Ramsay, Bart.	Ditto Ditto.
1844.	Revesby Abbey.	J. Banks Stanhope, Esq.	New House and Offices.
...	Raby Castle.	Duke of Cleveland.	Alterations and Additions.
..	Carradale House.	Richard Campbell, Esq.	New House and Offices.
...	Dartrey.	Earl of Dartrey.	Ditto Ditto.
...	Red Rice.	Rev. Thomas Best.	Additions and Alterations.
1845.	Inchdairnie.	Mrs. M. A. Aytoun.	Ditto ditto, and Lodges.
...	Leny House.	J. B. Hamilton, Esq.	Additions and Alterations.
...	Clatto.	Colonel John Low.	New House and Offices.
...	Ladykirk House.	David Robertson, Esq.	Additions and Alterations.
1846.	Eaton Hall.	Marquis of Westminster.	Ditto Ditto.
...	Calwich.	Hon. and Rev. Aug. Duncombe.	New House and Offices.
...	Creedy House.	Colonel Fergusson Davie.	Additions and Alterations.
1847.	Bangor Castle.	Robert E. Ward, Esq.	New House and Offices.
...	Gorhambury.	Earl of Verulam.	Alterations and Additions.
1848.	Clandeboye.	Lord Dufferin and Clandeboye.	Ditto Ditto.
...	Idsworth Park.	Sir J. C. Jervoise, Bart.	New House and Offices.
1849.	Moor Park.	Lord Ebury.	Alterations, Additions, &c.
...	Callton Mor.	N. Malcolm, Esq.	New House, Offices, &c.
...	Arundel Castle.	Duke of Norfolk.	Alterations, Lodges, &c.
...	Eastwell Park.	Earl of Winchelsea.	Alterations and Additions.
...	Beechwood.	Sir Thomas Sebright, Bart.	Ditto Ditto.
...	Fonthill.	Marquis of Westminster.	Design for a large Mansion.
1850.	Pepper Hall.	Lord Alvanley.	Alterations and Additions.
...	Babworth.	H. Bridgman Simpson, Esq.	Ditto Ditto.
1851.	Sandon Hall.	Earl of Harrowby.	New House and Offices.
...	Abbotsford.	J. R. Hope Scott, Esq.	Additional Wing, &c.
...	Lochend.	Sir John Warrender, Bart.	New Kitchen Offices.
...	Dunira.	Sir David Dundas, Bart.	New House and Offices.
...	Roehampton.	S. Lyne Stephens, Esq.	Alterations and Additions.
...	Holkham Hall.	Earl of Leicester.	Ditto Ditto.
...	Stoneleigh Abbey.	Lord Leigh.	Alterations, New Conservatory, &c.
...	The Hirsel.	Earl of Home.	Alterations, Lodges, &c.
1852.	Kilruddery Hall.	Earl of Meath.	Ditto, New Conservatory, &c.
...	Branksome Tower.	C. W. Packe, Esq.	New House and Offices.
1853.	Buchanan House.	Duke of Montrose.	Ditto Ditto.
...	Godmersham Park.	Edward Knight, Esq.	Alterations and Additions.
...	Orwell Park.	George Tomline, Esq.	Ditto Ditto.
1854.	Watcombe.	J. K. Brunel, Esq.	New House (not built).
...	Hamilton House.	Duke of Hamilton.	Alterations and Additions.
...	Castlewellan.	Earl Annesley.	New House and Offices.
1855.	Kinmel Park.	Hugh R. Hughes, Esq.	Alterations and Additions.
...	Patshull.	Earl of Dartmouth.	Ditto Ditto.
...	Taplow Court.	C. Pascoe Grenfell, Esq.	Ditto Ditto.

Date.	Place.	Client.	Nature or Extent of Work.
1855.	Surrenden Dering.	Sir Edward Dering, Bart.	Alterations and Additions.
...	Amport House.	Marquis of Winchester.	New House and Offices.
1856.	Brodrick Castle.	Duke of Hamilton.	Alterations and Additions.
...	Fonthill.	Marquis of Westminster.	New House and Offices.
1857.	Sandbeck Hall.	Earl of Scarborough.	Alterations and Additions.
...	Lynford Hall.	S. Lyne Stephens, Esq.	New House and Offices.
...	Montagu House.	Duke of Buccleuch.	Ditto Ditto.
1858.	Cheveley Park.	Duke of Rutland.	Alterations and Additions.
...	Tusmore House.	Earl of Effingham.	Ditto Ditto.
...	Wishaw House.	Lord Belhaven.	Ditto Ditto.
...	Tottenham Park.	Marquis of Ailesbury.	Ditto Ditto.
1859.	Stanway House.	Earl of Wemyss.	Ditto Ditto.
...	Balentore.	David Lyon, Esq.	New House and Offices.
1860.	Blythfield Hall.	Lord Bagot.	Alterations and Additions.
...	Dogmersfield House.	Sir Henry Mildmay, Bart.	Ditto Ditto.
1861.	Tehidy Park.	J. F. Basset, Esq.	Ditto Ditto.
1863.	Polmaise.	Colonel Murray.	New House and Offices.
...	Ganton.	Sir F. Legard, Bart.	Ditto Ditto.
...	18, Carlton House Ter.	Duke of Newcastle.	Ditto Ditto.
...	Shirburn Castle.	Earl of Macclesfield.	Stables, &c., &c.
1864.	Blickling Hall.	Marquis of Lothian.	Alterations and Additions.
...	Spye Park.	Major Spicer.	New House and Offices.
...	Blankney Hall.	Henry Chaplin, Esq.	Ditto Ditto (not executed).
...	Crown Point.	Sir R. J. H. Harvey, Bart.	Ditto Ditto (not executed).
...	Bearwood.	John Walter, Esq.	Ditto Ditto (not executed).
...	Swanbourne.	Sir Thos. F. Freemantle, Bart.	New House and Offices.
...	Kimbolton Castle.	Duke of Manchester.	Alterations and Additions.
...	17, Grosvenor Square.	Earl Fortescue.	New House and Stables.
1865.	Whittlebury.	Lord Southampton.	New House.
...	Powerscourt.	Viscount Powerscourt.	Alterations and Additions.
1866.	Weston Park.	Earl of Bradford.	Ditto Ditto.
...	7, Grosvenor Place.	Lord George Manners.	New House and Stables.
...	Wickham Court.	Colonel Farnaby Lennard.	Alterations and Additions.
1867.	Oaklands Park.	F. G. Dalgety, Esq.	New House, Offices, &c.
1868.	Rendlesham Hall.	Lord Rendlesham.	New House and Offices.
...	Ottershaw Park.	Sir Edward Colebrooke, Bart.	New Wing and Alterations.
..	Brocklesby Park.	Earl of Yarborough.	Alterations and Additions.
1869.	Somerley.	Earl of Normanton.	Ditto Ditto.
...	Crichel.	H. Gerard Sturt, Esq.	Ditto Ditto.

PUBLIC BUILDINGS.

Date.	Name.	Locality.	Nature or Extent of Work.
1816.	Custom House.	Greenock.	New Building.
..	St. John's Church.	Edinburgh.	Ditto.
1822.	Lunatic Asylum.	Perth.	Ditto.
1823.	Union Bank.	Dundee.	Ditto.
1824.	Watson's Trust Hospital.	Edinburgh.	Ditto.
...	Lunatic Asylum.	Dundee.	Alterations.
1826.	Church.	St. Monance.	New Building.
1827.	Sir Wm. Forbes's Bank.	Edinburgh.	Ditto.
...	Church.	Corstorphine.	Ditto.
...	Gordon's Hospital.	Edinburgh.	Ditto.
1828.	Church.	Stenton.	Ditto.
...	Churches.	Dundee.	Restorations.
...	Bank of Scotland.	Glasgow.	New Building.
1829.	St. Giles's Church.	Edinburgh.	Restoration.

DATE.	NAME.	LOCALITY.	NATURE OR EXTENT OF WORK.
1829.	Church.	Thurso.	New Building.
1830.	Shaw's Hospital.	Edinburgh.	Additions.
...	Episcopal Chapel.	Peebles.	New Building.
...	Theatre Royal.	Edinburgh.	Ditto.
...	Church.	Minnigaff.	Ditto.
1831.	Madras College.	St. Andrews.	Ditto.
1832.	Church.	Newburgh.	Ditto.
...	County Buildings.	Haddington.	Ditto.
1833.	Ditto.	Inverness.	Ditto.
...	Bank of Scotland.	Stirling.	Ditto.
...	Ditto.	Kircaldy.	Ditto.
1834.	Lunatic Asylum.	Dumfries.	Ditto.
...	New Club House.	Edinburgh.	Ditto.
1835.	Church.	Dornoch.	Ditto.
...	County Buildings.	Cupar.	Ditto.
1836.	Royal Bank.	Edinburgh.	Additions.
1837.	Church.	Knowsley.	New Building.
...	Ditto.	Dalkeith.	Ditto.
...	Bank of Scotland.	Greenock.	Ditto.
1838.	Church.	Gladsmire.	Ditto.
...	Ditto.	Penninghame.	Ditto.
1839.	Ditto.	Hawick.	Ditto.
...	Ditto.	Morton.	Ditto.
1840.	Morningside Asylum.	Edinburgh.	Ditto.
...	Church.	Port Patrick.	Ditto.
1841.	North British Assurance Office.	Edinburgh.	Ditto.
1842.	Bank of Scotland.	Dundee.	Ditto.
1843.	Prisons.	Inverness.	Ditto.
...	Church.	Langholme.	Ditto.
...	Edinburgh Life Assurance Office.	Edinburgh.	Ditto.
...	Episcopal Chapel.	Dalkeith Park.	Ditto.
1845.	Western Bank of Scotland.	Glasgow.	Ditto.
...	Trinity Hospital.	Edinburgh.	Additions.
...	New Grey Friars Church.	Ditto.	Ditto.
...	Middle Church.	Dundee.	Restorations.
1859.	Junior United Service Club.	London.	Alterations.

Also a great number of Churches not mentioned, as well as other Public Buildings, including Schools, Parsonage Houses, Chapels, and Mausoleums, from the year 1816 up to January, 1870. (This List comprises 200 works out of about 700).

The CHAIRMAN said,—I am sure we all feel grateful to Professor Donaldson, for having brought before us this interesting sketch of the life of a gentleman just past away from among us. He has associated his memory not only with the glories of his native land, but with his 700 works—no mean halo to surround a departed artist! I cannot let this notice of the life of Mr. Burn pass without bearing my personal testimony to his great, his exceeding kindness to all those younger than himself, and I have had many instances of that kindness during my own career. He was always ready to give to his younger professional brethren sound, good, and shrewd advice, derived from his own very extended experience. His habits of business were a remarkable feature in his life. He was—I was going to say—more a man of business than an artist; but that would certainly not be right or fair, because many of his works have very high artistic merits; but his habits of business were peculiar, and no doubt they contributed a great deal to the confidence placed in him, and the professional success which attended him through life. I have listened with great interest to this short memoir, and I have no doubt all, who knew the late Mr. Burn, must have done so, and have felt that, whatever panegyric Professor Donaldson has thought fit to pass upon him, it has been thoroughly well deserved.

Professor **KERR**, Fellow.—I can scarcely allow this occasion to pass without making one or two observations. I think the career of the subject of this memoir is most instructive. Mr. Burn aimed at being an eminently practical useful servant of the public, and the success, which attended his endeavours to satisfy that purpose, has been most complete from the commencement of his career to the end. And this, I consider, is an encouragement to all of us to adopt a practical course in our dealings, (as servants of the public — every one of us,) and to expect the same reward which he received. It is no easy thing—as many of us may say from more or less of personal experience—to satisfy the demands of the higher classes of society in respect of that very important matter—their domestic accommodation; and if Mr. Burn succeeded in acquiring and maintaining, throughout a long lifetime, so high a reputation in such a difficult matter, (though to some persons, apparently so easy,) as the design of gentlemen's houses, we must accord to him a very superior position. It is too much the fashion now-a-days to judge architects exclusively by other standards: but I hope this Institute is proof against any fallacy of that kind, and is always ready to attach to the memory of distinguished practical men the full recognition of their merits. I may say that Mr. Burn's plans for country houses —speaking as I do, I will not say with authority, but from certainly a careful study of the subject— were all, that one can express by the term faultless. He had so thoroughly acquired the mastery of the demands of that particular problem of plan—and those demands are neither few nor small—that he was able, so far as I could judge from a study of a number of his plans, (I regret to say without his consent) to meet the demands of his clients in such a manner, that I may safely say no one else in the country could hope to compete with him. It is matter of regret that we cannot have a collection of his plans laid before us for our consideration; but I am sure that any critic of such designs, who may have the opportunity of devoting himself to their study, will bear out all I have said in favour of our recognition of the remarkable skill they display. I have the greatest pleasure in bearing my testimony to the high merits of Mr. Burn, and in supporting the vote of thanks, which we are called upon to give to Professor Donaldson (who is always deserving such votes) for coming forward to give us this pleasing Memoir of so distinguished a colleague.

ON THE DESIRABILITY OF RESTORING CHURCHES OF THE ITALIAN STYLE OF ARCHITECTURE.

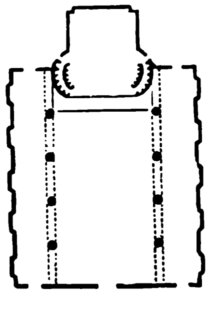
By the Rev. E. L. Cutts, B.A.

THE taste of the public during this generation—at least of the church-building and restoring public—has run so exclusively in the direction of the Gothic revival, that it has failed to do anything like common justice to Classical architecture in general, and to churches of that style in particular. And yet we have in London and in some of our towns churches in this style which are really noble buildings, many which are of very respectable architectural merit, and others which, while they are not perhaps such as to satisfy our architects' knowledge and taste, are still important buildings from their size and their use. *Those* ought to be carefully treated, so as to bring out their architectural merits, *these* so as to make them at least as worthy as possible of their important use.

It is quite true that many of those buildings internally look very cold and un-churchlike, but so did our old churchwardenized Gothic town churches before they were restored. Some of these Classical churches will perhaps need as thorough and costly a renovation as those Gothic churches did. We shall have to make a clean sweep perhaps of lobbies and galleries and pews. Then we shall find in some cases that we have the shell of a very beautiful temple (as St. Mary Woolnoth and Hanover Chapel), in other cases we shall have a building of spacious area and imposing proportions, which are not unsatisfactory features for the restorer to deal with. We should have probably to put painted glass in the windows, and colour and gilding on the architectural features, and paintings on the walls, and statuary perhaps in suitable positions, and so we should give them as buildings the accessories which they have always needed. Then we shall have to replan the area so as to fit it for the purposes of a church, and to put into it furniture which will harmonize with the architecture in style, and yet be ecclesiastical in its general effect. Indeed, these are the two principles of restoration which I would venture to lay down: 1st, that it shall be in true harmony with the architecture of the building, not an attempt to Gothicize or Byzantinize Italian buildings; 2ndly, that it shall be ecclesiastical in its feeling and effect.

I venture to take three or four well-known London churches as examples, to sketch out the way in which I would suggest that they should be treated. And here it is right to mention that I have the advantage of embodying in my paper the suggestions of a gentleman who has professionally given great attention to the subject of the decoration of buildings, who was good enough to visit some of the London churches with me, and to put at my service the full notes which he made of his general ideas on the subject of their restoration.

To take first the church of St. Martin in the Fields. From its site as one of the group of buildings surrounding Trafalgar Square, the west-end focus of the Metropolis, it takes rank as one of our important public buildings. From its imposing size and from the architectural merit of its west end, it is not unworthy of its site. But I venture to remark that its interior is not what the interior of such a church in such a situation ought to be, and I shall hazard some suggestions as to its restoration. The plan of the church comprises a nave and aisles divided into five bays by columns of Corinthian order. Though externally the plan of the church is a parallelogram, internally the two eastern angles are taken out of the church, leaving a sacrarium between them. The western corners of this sacrarium are curved, the angles of the plan are occupied by vestries below, and pews above at the height of the galleries, the doors of the vestries and windows of the pews



opening upon the curved angles of the sacrarium. The arrangement irresistibly suggests the proscenium of a theatre, with its stage boxes, and forms one of the most objectionable features of the church. There are galleries round three sides, supported by the shafts of the columns. The church is lighted on each side by five semicircular-headed windows above the gallery level, and by as many dwarf square windows below. The pews and galleries are of oak, and the shafts of the columns of Portland stone.

In considering the whole treatment of this interior the first question which arises is, "Are the galleries to be retained?" In answer to this, looking to the somewhat flat and wide proportions of the church, and to the want of the room in a well-attended church, I say, "Yes"; but they must be disengaged from the shafts of the stone columns, and the fronts set back some feet and supported upon dwarf columns. The high oak wainscoting at the back of the galleries might also be lowered with advantage to the proportion of the walls.

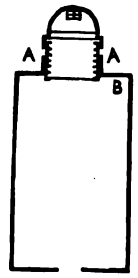
I next take the "theatrical" chancel, if it can be so called, and, with a view to giving it more the effect of a real chancel, propose to raise the floor one step, starting with a bold curve from the first pier of the nave. A second curved step, or perhaps two, would rise at the more contracted part of the chancel. The extremely ugly carving, which now serves as a reredos, would be removed.

I think that the fixed pews should be altogether abolished in the nave, in order to gain the height which the building certainly wants. A handsome coloured marble pavement in the nave, arranged geometrically, would tell with good effect, and the faces of the square plinths supporting the columns (which would be exposed by the removal of the pews), might advantageously be panelled with marble. The chancel screen might be constructed, as a marble balustrade, upon the lower curved step and at the sides, and suitable stalls would take the place of the temporary ones now placed here for the choir.

I come now to the coloured decoration which must at the same time give the most advantageous effect to proportions of the building, and produce such a result as will be agreeable to its sacred use. The panels of the entire ceiling might have grounds of an aerial tone of grey, the relief ornament being left light, and the dividing bands picked in with subdued red. The same tone of colouring, somewhat more pronounced, would extend to the ceilings over the galleries. Having regard to the extent of wall already occupied by the dark-coloured oak, it might be inexpedient to use a light colour for the wall surface. A well toned red would probably prove the best colour; but some skill would be required in clearing it sufficiently from the oak and avoiding a too sombre result. The deep reveals of the windows offer a good field for gold and colours, while the windows themselves should be filled with glass in which much colour might be introduced, but which should have white in predominance. I would continue the same treatment of wall and window linings below the gallery as above; but the ceilings under the gallery would need a very light colouring; they might, nevertheless, be panelled by margins of flat colour. The columns should be treated as *light* in tone against the walls; the cornice, impost, capital, shaft and plinth might all have a warm stone colour as base. Gilding might be used in the sculptured portions, and a cautious relief of colour used in the cornice, especially between the consoles.

It would be most desirable to remove the varnish from all the oak work in the church, and if this were done by scraping, some blackness might be removed and the wood restored to an agreeable brown colour. This having been done, some members of the gallery front mouldings might be gilt.

The treatment of the chancel, as regards the walls and pilasters, would not differ considerably from that of the remainder of the church; a richer blue might, however, be used in the ceiling. Gold might be more freely used, and the lower portion of the wall might be diapered. As to the "opera-boxes," as one must call the pews which open (on the gallery level) into the chancel, they are so completely of the architecture of the church, that it seems impossible to do otherwise than tolerate them. The pulpit might be thrown out from one of them, and perhaps a choir organ might find a place in the other. These alterations would not make the interior all that we could wish a church to be, but would, I venture to think, make a very great improvement in it.

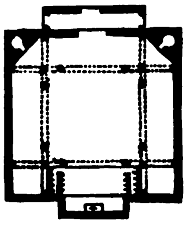


I take next the church of St. Mary-le-Strand. Its small size and highly ornamented exterior make it one of the gems of our Classical churches, while its conspicuous situation makes it an important public building. Internally it is also a beautiful building, and would present only one difficulty, viz., its heavy elliptical ceiling—to a very satisfactory restoration. Its plan consists of a nave with portico at the west end, a very short choir, rather narrower than the nave, and a semi-circular domed apse for a sacrarium. In elevation the nave is lofty in proportion to its other dimensions, and, apparently to prevent an appearance of disproportionate height, is divided into two stages by a very bold unbroken frieze. The wall above and below the frieze is divided into panels by couples of pilasters ; in the upper stage the panels are occupied by the windows, in the lower stage they afford large well-shaped spaces for historical paintings.

For its restoration I should like to extend the short choir a little into the nave, retaining the organ in the east corner of the nave, and the pulpit, a very handsome example of its kind, in the south-east corner. The domed ceiling of the apse is divided into three bays, the panels of which are filled with plaster rays and sprawling angels, which should be removed. The choir already affords a satisfactory model for the restoration of the rest of the church, and shows how admirable the effect would be. The pilasters are enriched with gilding on their flutings and their capitals, and oil paintings of good tone in oak frames are placed in the panels, the ground of the panels being a flat tone of red.

Taking first the decorative treatment of the nave itself. The ceiling, also divided into five bays, has an elliptic section, which is cut into by the circular window heads. It is divided by a heavy enriched moulding into coffers, in courses alternately square and diagonal, each coffer being filled by a coarse pendent flower. The treatment of the ceiling is decidedly too heavy for the rest of the architecture. I think the proportion of the building makes a transverse division of the ceiling into bays desirable. The courses of square coffers corresponding with the pilasters may therefore be coloured in maroon red and citrine, whilst the larger diagonal coffers may be treated in blue. The centre flowers and the enriched moulding should be light, and relieved with gold at well-defined points. In the same way all the leading mouldings of the elevation, including the capitals and bases of the pilasters, may be kept a light stone colour, with judicious relief of gilding.

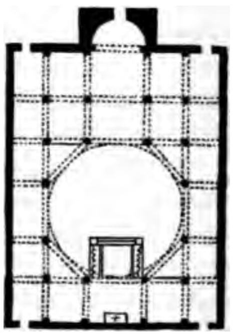
The *upper* wall surface, that is to say of the piers between the windows, might be of a deep, warm stone colour, deep enough to relieve clearly the mouldings and pilasters, and these latter might be of light stone colour, similar to the mouldings, and with gilded flutings. The frieze above them should be quiet red, with emblems and ornaments in gold.



I will take as my next example the church of St. Mary Woolnoth, at the corner of Lombard Street and King William Street. The plan is a square, or nearly so, with a smaller square inserted within it, at each of whose angles are three large, handsomely proportioned Corinthian columns. These columns do not carry a dome, which was perhaps the most obvious idea, but on a square entablature they support a lantern or kind of square clerestory of half the height of the main walls. This is the whole of the church, except that a shallow recess on the east side contains the altar, under an oak baldachin carried by two twisted columns with Corinthian capitals. It is not much like a church, but it is a very beautiful temple. The whole area is occupied with pews, and there are galleries on three sides, an organ at the west end, and a great pulpit with sounding-board and a reading pew on the east side. The first step towards the restoration would be to empty the interior, and lay down a handsome floor of inlaid marbles. I suggest the removal of the galleries with some compunction, for they are an excellent example of the way in which galleries may be treated. They stand back behind the columns, detached from them, but their fronts are projected forward like balconies between the columns, so as to get all the advantage of the more forward position without the usual interference with the architecture. They are, moreover, handsomely carved. I should, nevertheless, like to sweep them away. They are not required for the present congregation, which only numbers some fifty or sixty; and the architecture is really so exceedingly fine, that it ought to have the justice of being thoroughly displayed to the greatest advantage. Retain the present sacrarium, with its classical baldachin ; only clearing the oak from its shining, sticky-looking varnish, and relieving it with a little gilding. Leave the rest of the area entirely unencumbered, using chairs when needed for the congregation; and move the pulpit, without its sounding-board, into the south-east corner. The coloured decoration should be the subject of careful study. Beginning above, the ceiling of the lantern, which is in one large panel, might be treated with gold stars, and perhaps a large centre device in gold on a blue ground; its cornice and mouldings relieved with gilding. The spandrils on either side the large arched windows afford a fine field for figures on a gold ground. The columns, architraves, cornices, &c., would perhaps be best treated as light stone, with a handsome relief of gilding in the capitals and enrichments. The frieze might have writing or ornament upon a deep coloured ground. The rolls in the lower parts of the column flutings might be gilt. The walls would require careful consideration. Probably the best effect would be obtained by panelling the upper walls and richly diapering their lower portion. I do not think that the light or position would justify pictures. An opportunity for high art is, however, well afforded at the east end, both over the outer elliptic arch and over the baldachin. From the latter place the trumpery shields, &c., would be removed and the coffered ceiling over it handsomely brought out with colour and gold.

We will conclude with the church of St. Stephen's, Walbrook, which is commonly spoken of as Wren's masterpiece. Its plan is a square, with a smaller square inscribed within it, on which are placed columns, twelve in number, which carry a central dome ; the square is lengthened a bay westward, introducing four more columns into the design.

I humbly confess my inability to appreciate, so highly as its reputation seems to demand, this "masterpiece" of Wren's; and it seems to me the most difficult of all the buildings I have mentioned both to decorate as a Classical building and to arrange as a church; but I feel bound, as part of the task which I have undertaken, to commit myself to some suggestions on the subject. There is little to obstruct our restorations; there are no galleries, and if the pews were removed we should have a very spacious hall, with a number of columns which look rather scattered, not falling into groups as in St. Mary Woolnoth, and not forming vistas from any point of view except along the narrow aisles between the columns and the walls. There is a large window at the east end, with a smaller one on each side of it, at the ends of the principal aisles, and a round window on each side again, at the ends of the outer aisles. The west is similarly lighted, except that the place of the great window is occupied by a picturesquely framed organ. There are large windows, in what we may call the transepts, and curious oval windows, with their longer axis horizontal, high up in the side walls. For the decoration of the building I should suggest first to lower the height of the present panelled dado, and then to paint pilasters on the walls to correspond with the columns; this would probably relieve the present scattered appearance of the columns, on which I have remarked, by giving the effect of additional columns, and throwing them into apparent vistas. The



effect would be the more decisively produced if the columns were coloured red, as I propose they should be, and the painted pilasters of the same colour ; the ground of the walls being left light, the capitals touched with gilding. The walls would thus be divided into panels, and one of the windows I have spoken of would come into each panel. At the east and west end of the transepts the windows would nearly fill these panels. In the side walls the oval windows would come into the heads of the panels, and the rest would easily be decorated by a few lines of coloured decoration following the outline thus marked out. A vast deal of complicated enrichment remains to be planned for the ceiling and dome.

In arranging the building as a church the great difficulty is that the constructive features of the building afford us little help. The difficulty is apparent in the present arrangement, in which the alley across the dome from north to south forms the boundary of the eastern blocks of pews, and on their western line are placed the pulpit and reading desk.* I should be disposed to take the line a little further east, defined by the columns, as shown on the plan, for the western boundary of the chancel; the north and south boundaries fall naturally in the line of the eastern columns, and on this space I should boldly build up a chancel, two or three steps high, with a low wall, and ballustered screen, of marbles, with two bold bemas at the western angles, one for the pulpit, the other for the lectern. The space east of this, defined by the columns, would naturally form the sacrarium, raised several steps above the chancel, and with taller screens. The whole middle compartment of the eastern wall would be treated as a reredos; while a baldachin over the altar, for which we have authority in St. Mary Woolnoth, would help to make this the artistic and ritual focus of the building.

The dome is divided, horizontally, into eight segments, each of which is panelled with coffers. This would probably be treated most effectively by retaining the structural parts as light stone, with some very simple decoration, and making the grounds of the coffers blue, the rosettes and mouldings being gilt. The console cornice would require bold relief and a liberal use of gilding, whilst the pendentives might be treated in more subdued tones, with perhaps a gold ground to the panels. It would be worth consideration whether to remove the relief ornament from these panels and substitute paintings of the four Evangelists. The mouldings which frame the pendentives, and therefore mark the support of the dome, should be boldly gilt. The coffers of the flat ceilings might also have blue, with gilt enrichments, but the treatment of the vaulted portions of the ceiling would require considerable study. It would at any rate be essential to clearly mark the joinings, by the colouring or ornament, since these form a very picturesque feature of the church. The entablature and columns would be best retained as stone, with relief of gilding and with colour in the frieze. The wall and space surrounding the large windows affords an opportunity for rich decoration, whilst the bevel next the light would tell well with positive ornament on a gold ground, as at St. M. Maggiore at Rome.

I should gladly see St. Mary-le-Strand taken as the subject of the first experiment, if experiment it can rightly be called in this case, where a commencement of the work already exists, and where the result can be so certainly foreseen. The cost of the decoration would probably not exceed £1500., a sum which ought to be forthcoming for a purpose of metropolitan interest. In France the Government would undertake it immediately.

I should like to see St. Mary Woolnoth taken in hand at the same time. The Goldsmiths' Company, I believe, and private people of influence in the City, have already interposed to save it from being included among the City churches condemned to destruction; let them complete their good work by effecting such a re-modelling of its beautiful interior as I have suggested—the cost need not be large: probably £2000. would effect it; and they would give the Metropolis a more beautiful Classical interior than any which it at present possesses. It would not be well adapted for a large congregation, but no large congregation now uses it; the Sunday congregation is usually fifty; but it would be admirably adapted for one of those short, daily, mid-day services which have lately been established for the use of City men; and its situation in the very focus of the City makes it the church of all others in which such a service should be held. The Corporation might undertake to carry out Sir M. Digby Wyatt's plans for St. Lawrence, Jewry.

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* Sir C. Wren, in his report on the City Churches, protested against the original introduction of pews, and would therefore concur in the proposal to sweep them away. "It were to be wished," he says, "there were to be no Pews, but Benches. But there is no stemming the Tide of profit and the advantage of the Pew-keepers."

Happily we have the artists who could execute these restorations thus suggested, even though they include, as in some cases they ought to include, painting of a very high character of art. I have to thank Mr. J. D. Crace for kindly exhibiting on the walls to-night in general illustration of my subject, drawings of ancient Italian church decoration from Sienna and elsewhere, and of modern examples of a similar kind from Munich. Sir Digby Wyatt has been so good as to send his designs for the restoration of St. Lawrence, Jewry, and Mr. Burges his designs for the restoration of the Chapel of Worcester College Oxford, and here is also a rough sketch of the coloured decoration of St. Peter's, Notting Hill, just executed by Messrs. Harland and Fisher. I may mention also Mr. Butterfield's restoration in progress at Christ Church, Albany Street, and St. John's, in the Waterloo Road.

I do not at all despair of seeing the public led to appreciate these buildings, which they have so long undervalued and neglected, induced to contribute munificently to their proper restoration, and I venture to promise that they would be astonished and delighted with the results.

The CHAIRMAN having remarked that the subject of Mr. Cutts's paper was one of great interest, invited discussion upon it.

Mr. C. F. HAYWARD, Fellow.—I rise for the purpose of proposing a vote of thanks to Mr. Cutts, who is always ready to give the Institute the benefit of his ecclesiological and archæological knowledge, and to offer his amateur architectural views to free discussion within these walls. We ought to welcome the notes he has prepared with reference to these Classic buildings, as we have formerly done those of Gothic character. Whether the time has now come for them or not, or whatever difference of opinion may exist with regard to the style of the proposed improvements, there can be no doubt these Classic churches as they exist are a reproach to us. No one could be found to say, for instance, that the grand old churches in the City referred to by Mr. Cutts are exactly in the condition that they should be, and that no alteration is required to adapt them to present times and altered circumstances. Either they ought to be taken care of, or if not deemed worthy of anything but neglect, should be swept away altogether, as actually cumbering the ground, and doing more harm than good by taking up the services of those who would be better employed elsewhere, and who are now in charge of the mere machinery of worship instead of looking after the spiritual welfare of a congregation. When one comes to think it over, many of these buildings seem hardly worth the amount that must be spent upon them, in order to fit them for the purposes of the due celebration of divine worship, and, indeed, the smallness of the congregations which at present attend them, would scarcely warrant any considerable expenditure on the fabrics, especially in decoration. We know that very considerable (though occasional and fitful) discussion is going on as to which of these churches should be maintained; but those that do remain—these grander ones—it seems to me ought to be taken in charge by some one, with a view of making them more accordant with modern ideas of church arrangement. If that cannot be done by the congregations themselves, it might be referred to the body who have been, or may be, commissioned to enquire as to these churches, who might originate some scheme with reference to their proper restoration and maintenance. This body, it seems to me, should not only go into the question of what churches should be destroyed, but also how those which remain should be restored, and perhaps apportion some part of the money received for the sites of the churches destroyed, to the improvement of those which remain, before any other appropriation of it is made. This is a point which I apprehend must be seriously discussed in a short time, for Sir Charles Trevelyan, and others, have of late taken up the subject very earnestly, and I trust it will be followed up more generally hereafter. But already there are several of these churches restored in such a way as opens the question which Mr. Cutts has taken up, viz.: how this restoration should be carried out, whether in a Classical or in a Gothic spirit? Notwithstanding the eminent success with which some churches have been restored in a quasi-Gothic manner, I cannot help thinking Mr. Cutts is right when he advocates consistency of style, and that when there is a good Classic building to deal with, the only proper way in which an architect could work upon it would be to treat it as he would a Gothic building under similar circumstances, and taking it for what it is in fact, carry out any changes in the spirit of the original style. Acknowledging, therefore, the great pleasure derived from seeing the way in which a different style—our loved Gothic—has been applied to Classic churches (though some of them not exclusively Classic in style) in the City, and elsewhere, I cannot help feeling, at the same time, that, if the matter is put to us definitely as architects, we must in all fairness and consistency, say, a good Classic building should be restored in a Classic style. This seems to be the moral of Mr. Cutts' paper, and with his strong ecclesiological and Gothic predilections, great credit is due to that gentleman for so boldly stating his opinion.

There is one notable example of the restoration of a building in a Classic style, which I am inclined to quote (a drawing of some of the decorations of which is exhibited), because it is the work of our friend Mr. Burges, who has departed herein from the style with which he is generally identified, but which is hereby shown to be only one phase of the studies of that accomplished artist. The chapel of Worcester College, Oxford, as plain a building as can be imagined, has been restored in the interior, in such a way that it is now a real landmark in the history of church (or chapel) restoration. It is an example of how a Classic building can be treated classically by one who has true Gothic spirit in him, and that it should be more successful than most Classic buildings treated by Classic architects, is in itself remarkable, and shows that it is rather the accident of study than the special features of a style which rules the peculiar form of expression adopted by a true artist, and that as the same grand ideas may be expressed in different languages, so an artist need not confine himself to one style of art exclusively in order to express himself with effect.

I would now mention one church in particular which seems to me a good example of the state in which most of these Classic churches are in at the present moment, and one which would require some special treatment to make it suitable for its ordinary uses according to modern ideas. I refer to St. George's, Bloomsbury (by Hawksmoor, 1731), a church which has been called by Walpole,[*] a "master-

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[*] "The church is situated on the north side of Hart Street, and has the advantage of a wide-built street to show its architecture, which is an odd mixture of the Tuscan and Corinthian orders. That part of the body visible might very readily be converted into an impregnable castle; but the front exhibits a grand portico, elevated on a flight of steps, that supports six Corinthian columns, their entablature, and a pediment, which are reflected by the same number on the wall of the church. But the proportions are not quite correct, and the doors and windows are execrable. Mr. Walpole ('Anecdotes,' vol. iv, p. 43.) calls the steeple 'a master-stroke of absurdity.' This, I trust, I shall be able to disprove in another place, except the introduction of supporters of the arms of England: those, I grant, are most ridiculously disposed.

"Contrary to established custom, the altar occupies the north end. Although the design is extremely heavy, and ***this effect is produced by the composite order***, there is something superb in the double colonnade before the altar, consisting of eight fluted pillars and six pilasters, which support entablatures, correct enough, but the arches from them are fit only for a prison; ***besides, they are semi-ovals.*** Four high piers, on the east and west walls, ***imitate*** pilasters. They support three arches on each side, four of which are semi-arches, and the rest like that before the stroke of absurdity," and in some respects with truth, for the tower and quasi-spire is surmounted by a statue of *King* George instead of the *Saint*, and at the base of the spire there are the lion, the unicorn, and the crown built in on an enormous scale. The portico, and the mass of the building, however, are really fine, and built of the best material, Portland stone, now grown white with age, and indeed the interior generally, without its galleries, is so good that it should be treated (we cannot say "restored,") in some way so as at least to make it available for its purposes as a church. The interior, however, at present is—to use the terms applied so long ago as 1803, by Malcolm, in 'Londinium Redivivum'—extremely heavy, though there is something superb in the double colonnade before the altar.* To say nothing about the altar or communion table being at the north end, which is a striking peculiarity of this church, the chief point for which the building was erected seems to have been overlooked, as it often was in these great galleried churches. This object I apprehend was, and should be, in all Protestant churches, that the congregation should have the opportunity of seeing as well as hearing all that is going on. That is a simple business view of the question; but in this church, which I quote only as an example, and many others, it is almost impossible to do so. The way in which the high pews, especially those in the galleries, are constructed, and the way in which they are placed with reference to the pulpit and reading desk, which tower one over the other, shutting out all view of the shallow space beyond the altar rails, which serves as a chancel, is enough to show that something is required to be done to make the building fit for the simple purposes for which it was designed. I speak now without reference to the details of ritualistic arrangement, as to any screen, or raising of the floor, though all these might be made much more ecclesiastical and seemly for holy worship, but I simply draw attention to the fact that the building shows great want of arrangement for the common purposes for which it was supposed to have been adapted. Here is a fine building, in many respects, almost thrown away, and even deficient in those very simple requirements of seeing and hearing, which are often alleged as excuses for the frequent heavy and oppressive ugliness and coldness, which distinguish churches of this style and date, and which it is time should be remedied. In conclusion, I beg to propose a vote of thanks to Mr. Cutts for his interesting communication.

Mr. E. I'ANSON, Vice President.—I have great pleasure in seconding Mr. Hayward's motion. I congratulate the meeting on the advent of a gentleman who stands up and gives us a paper in favour of the Italian churches of London. They represent an epoch in the history of architecture of which, in these days, it is well to be reminded. There is, no doubt, a vast deal to be done in improving the interior of the churches in the city; but we should bear in mind, I think, that the question of church decoration was not revived until after a considerable revulsion in the state of religious sentiment. So long as Puritan and Low Church views prevailed churches were not decorated; and up to a recent time, till the High Church party called attention to the subject, the decoration even of Gothic churches was never dreamt of. During the time in which this state of religious feeling prevailed, the residence of the inhabitants within the City was more customary than it is at the present day; but now the congregations in these City churches are exceedingly small, the interest of the parishioners in religious matters being

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altar. The south end has a colonnade, similar to the north. The church is thus formed into a square above the cornice of the great arches; but the Attick baffles all description: it is the external wall of a prison set thick with iron-barred windows, under one of the clumsiest, yet highly-enriched, ceilings in Europe.

"The galleries, though supported by pretty antique pedestals, are extremely heavy; the organ is very hideous, and the pulpit equally so. The altar-piece is grand; a pedestal, or basement, support two fluted composite pillars, with an angular enriched pediment, surmounted by vases. The intercolumniation is a deep niche, beautifully inlaid, with a glory, cherubim, a large octagon, filled with sexagons, and a border of scrolls."

* Malcolm's 'History of London,' vol. ii, p. 481.

in most instances diverted from that locality to others, and hence many of the City churches are scarcely visited at all. I was myself born and brought up and have lived amidst these churches. I know how bare their walls are and how deserted they now are as places of worship. I think, myself, that all Wren's churches are very noble structures, but they are singularly wanting in what we now look for as characteristic of religious places: scarcely any of them have a chancel: indeed, they are little more than square rooms. We now look upon the chancel as a distinctive feature of a church for our system of worship. In that respect they differ distinctly from gothic churches: in other respects I venture to say they are quite as convenient as places of worship; and the Gothic churches are generally so encumbered with columns that a large portion of the congregation in the pews cannot hear what is going on. That is not the case in Wren's churches. If we look at the examples of Saint Vincent de Paul and Notre Dame de Lorette, in Paris, we see how effectively internal decoration can be carried out; in the first-named church, especially, the decoration depends very much upon the magnificent historical paintings which surround the whole church, the work of H. Flandrin and others, and the cost of that style of decoration I think would hardly be subscribed for by the scanty congregations of the City churches. The most effective restoration of one of our City churches has been carried out by a very distinguished Gothic architect. That is at St. Michael's, Cornhill, which is a rich parish and happens to have funds sufficient to afford the means of restoring and decorating the church in a successful manner. There is, no doubt, immense scope for such work in the City, and I should be glad to see some of these decorations carried out. It has been said that public measures are in contemplation for the removal of these churches; but at the present moment, we may conceive, it is difficult to accomplish that. I believe the law gives power to parishes to amalgamate the churches; but it is so many generations past since interments took place in these churches in which families now living are interested, and I think it is not for the next generation that all these arrangements can be carried out which would, nevertheless, be distinctly for the public good.

Mr. JOHN P. SEDDON, Hon. Sec.—I have been much interested by this paper and appreciate Mr. Cutts' motives, and the practical way in which he has brought forward this subject. There are two or three other churches of the kind in London, which have been, to a certain extent, treated as he would propose, viz., one in the Waterloo Road, by Mr. Blomfield, and another in Albany Street, by Mr. Butterfield. The result in each case has been so far successful as to afford great encouragement to carry out Mr. Cutts' views in other cases.

Mr. J. D. CRACE, Contributing Visitor.—Mr. Cutts advocates that, where a church exists, and it is considered right that it should continue to exist, whether in London or elsewhere,—be it of a Gothic or a Classic character,—it should be made worthy of the worship which is carried on there. It appears to me that there are a large number of these structures of more or less merit, which may be rendered more worthy of the purpose for which they were built and less repellant in appearance than they now are. In considering the re-arrangement and coloured decoration of such churches, we are, perhaps, under even less difficulty than in treating churches of a Gothic character. The churches existing on the continent which have been more or less elaborately ornamented, and whose walls have been treated as fields for pictorial art, are very numerous; and so near as in the city of Paris we have several examples of churches of a Classic character treated ornamentally with great skill and taste, I may particularly mention that of "St. Eustache," occupying a position of transition from Gothic to Classic, which is treated with a coloured decoration of a very clever character. The treatment of most of the churches which Mr. Cutts has mentioned is certainly more difficult than of such a church as "St. Eustache," because they are much less picturesque in their composition. The interior of St. Martin's Church looks like a large concert room or theatre; still I think, with skilful treatment, such buildings might be rendered more ecclesiastical than they are. No doubt in the case of a church like St. Stephen's, Walbrook, a very fine effect might be produced by a coloured decoration. The interior of St. Mary Woolnoth, is dismal in the extreme. It is like a dirty whitewashed cellar. You can hardly distinguish the details owing to its grimy condition; but a certain amount of distinct coloured decoration would render its really fine architecture intelligible. It appears to me that the subject has been left too long in abeyance. The sympathies of the public and of many of us lie more in the direction of Gothic art. At the same time we are not under difficulties in falling back upon examples for the treatment of such buildings as those to which Mr. Cutts has referred.

Professor **DONALDSON**, Past President.—I cannot allow a discussion of this nature to go on without expressing my astonishment to think of the period at which we are arrived. Fifty years ago, if a gentleman had stood up and talked of improving the architecture of Wren by squaring corners here, or cutting off angles there, it would have caused a consternation in the profession. But we have reached an irreligious epoch as to architecture, which Mr. Cutts, has, I think, remarkably and fully developed this evening. It consists of color. The mind of the worshipper is to be gratified, and his devotion excited by blue, green, or red colors on the walls, and gold on the ceiling. My own feeling is that religion is not of that gaudy-painted character, but a sober, solemn impression worthy of the religious place where we worship the Almighty in spirit and in truth. It seems to me, there ought to be reserve and soberness in the human mind, when we approach the awful presence of the Almighty. But if we are to have the eye distracted and the taste flattered—if, when a man is at his devotions, he is to be met with gold in one place and red in another, is it not calculated to distract the attention? Ornament is not a thing to be put upon architecture, but should arise from the architecture itself. That is a truth which should pervade all design: therefore in the case of our buildings for worship, they require reserve and soberness of treatment, or the religious feeling cannot be solemn. It is suggested that our Italian churches should be treated with decoration in the way proposed to-night. I have been abroad a good deal lately, and what have I seen? I have seen worship carried on at Genoa in places like theatres: solemn they are not: decorated they are. You may go all over Italy, you may go to Venice, and see pictures with gaudy frames, and they attract the worshipper and excite his feelings. Is that consistent with one's ideas of the worship of the Almighty? I think not! We are told to do away with the pews and be satisfied with chairs. Is that a point worthy of being discussed in a great Institute like this? or is it worthy of a religious question at all? It may be a matter of speculative economy where they pay one penny for their use on ordinary occasions, and eighteen-pence for great festivals! As to high pews, I do not advocate them: I think they are destructive of architectural and solemn, religious effect; but as to chairs, I cannot admit them. It has been remarked that Wren's City churches were mostly built without chancels. Why, he had not room for chancels! He did right well. He appropriated all the space he had to religious worship, and did not sacrifice the church to the chancel, which is too much now the case in our time. It is said the church of S. Mary Woolnoth requires decoration. I think it is one of the finest churches we have. It may be the pews might with advantage be lowered; perhaps if free seats were introduced, it would be an improvement, but you want to decorate S. Mary's and gaud it. It appears to me nature unadorned is adorned the most, and in like manner the great principle of architecture is, that it should be its own decoration, which is not to be derived from colours put on. Mr. Cutts wishes these experiments to be tried upon our Italian churches—pull them to pieces—touch them up—ornament them—paint them. It is something like the experiment which is being tried with our religion, and I am afraid that is at the root of a great deal of this. I think proper and sober decoration there ought to be in our churches, and particularly in our cathedrals. Look at St. Paul's, Wren had not time to finish the decoration, but he left sufficient indication of his ideas of what he would have done, and was capable of being done subsequently. Then again St. Peter's at Rome is decorated with propriety and sober reserve, but with very little colour. Under such qualifications it may be desirable that churches should be improved where they can be, taking care that the impression is solemn, and not of a gew-gaw character, particularly in our parish churches.

Mr. **EDWIN NASH**, Fellow.—It appears to me that architectural appreciation is the key of this subject, and that the correct appreciation of art is of high importance, for it is clear that the genuine artist ought to have his mind ready to appreciate art in every phase if it be real art, and there is no real art without beauty, and if beauty exists, whatever the style of it may be, every person calling himself an artist ought to be able to appreciate it. With regard to the so-called Italian churches in London, some of them are remarkably excellent, and some are very indifferent, as indeed, Mr. Cutts has stated, but I am agreeably disappointed in finding that he appreciates these Italian buildings. Professor Donaldson, in his remarks, has vigorously denounced that warmth of color which I believe, if judiciously applied, would be of great assistance. We know how crude some parts of Wren's churches are, and how hard are the lines and forms of some of the window openings, but I do not believe that all the works attributed to him really emanated from his mind; nevertheless, many of his buildings are so excellent and are so convertible (without damaging his architecture,) to the more modern idea of what a church should be, that I think they might be treated by architects in a very artistic manner so as to make them attractive instead of repulsive, as some of them really now are. With regard to St. Michael's, Cornhill, as restored, or rather altered, by Mr. Scott, he has treated it in an Italian-Gothic style, and there was an excuse for doing so, considering that the tower itself professes to be Gothic, and that there were two styles in the building, and consequently he may have been puzzled as to which of the two he should adapt as his key-note. He took a medium course, and it must be considered a success. My opinion is, that a Classical or other building, if restored or altered, should be treated in the same style, with the same feeling as the original design, and I can imagine nothing more painful than a building like ancient St. Paul's with the classical portico of Inigo Jones attached to it, however beautiful the portico may have been in itself. Such a treatment as that would not occur if a due appreciation were given to art for the art itself, and I consider that architectural appreciation has always been imperfectly cultivated.

PROFESSOR KERR, Fellow.—May I be allowed to ask Mr. Cutts what he means by a baldachin in some of the City churches? [Mr. **CUTTS**.—A canopy supported by columns, over the communion table.] Is not that rather to be called a kind of Classical reredos? At any rate I would venture to make a few remarks; for the discussion has really taken so pleasant a turn that one can hope to be able to escape giving offence in expressing one's candid opinion; although more commonly, on a subject of this kind, it is necessary before one opens his mouth at least to look round the room and see who is present. We have arrived at several very useful propositions. The first is that there is a certain amount of Wren's architecture which is of sufficient merit to admit of its being "restored!" Secondly, we have arrived at the proposition that the restoration is to some reasonable extent to be permitted to be in accord with the original design of the buildings! This will be satisfactory to many of us, I dare not say to all, but to some. For my own part, I think if one or two of the City churches which are condemned to be pulled down were to be previously "restored" without this condition, indeed in the most approved modern Gothic manner, it might be well worth while. It would at any rate enable us to see what some of our friends would do for the credit of their creed with *carte blanche* as regards style. Gentlemen appear to forget that there is here something which is not in itself religion, but which at the same time is worth mentioning in connection with religious architecture. I will not say that England is a Protestant country, the remark would be too severe; but I may say that in the time of Wren it was a Protestant country. Wren had to build Protestant churches, and Protestant churches he built, and built them well. Hence the curtailment of chancels and the regretted absence of baldachins to stand in the midst of the sweeping ceremonial stages which the lecturer advocates. We do not want such things for the ordinary forms of Protestant worship; they have no legitimate purpose for the architect to recognise. It is true that fashion changes, and that we must allow for its change; and when one side of the house is in the fashion, the other of course must be out. Some of us have been out of fashion in church building for a long while; but the time is coming when by a turn of the wheel of fortune we shall come in again. I am sure that some of our younger friends at least may expect to live to see the fashion entirely changed. I have only to add that when this time comes it may be difficult for them to know what to do in the way of "restoring" the Gothic churches that are now so fashionable.

Mr. **HEBB**, Associate.—I have always understood that Sir Christopher Wren left a scheme for the decoration of St. Paul's in color which, I believe, is now being partially carried out in accordance with the designs he drew out. I would ask Professor Donaldson, who has so extensive an acquaintance with the original drawings of architects, whether it is not probable that some records of Wren's drawings of the City churches built by him exist, and also those of Hawksmoor, the architect of St. George's, Bloomsbury?

Mr. **JOHN P. SEDDON**, Hon. Sec.—I think hardly sufficient attention has been given to the admirable drawings of ancient church decorations by Mr. Crace, exhibited this evening; in them color is introduced to a fuller extent than anything Mr. Cutts has suggested. If I have any criticism to offer upon his suggestions, it would be that they slightly savour of timidity. The only fault I should apprehend would be that there might be too little colour rather than too much. If you want solemnity of effect, you must not "touch up" a church with a little bit of gold and red here and there as if it were a drawing room, but you must have a composition from an artist mind, and the thing must be taken up and thoroughly carried out from beginning to end. That is what I should wish to see, as I am sure neither Wren nor any other architect could have intended entirely to cover the walls with cold white plaster, or propose as a final result the present dingy effect; and we shall only carry out their views in making the buildings worthy of the house of God by richly and thoroughly decorating them. I cannot see why the mind should be distracted by these edifices being richly coloured and decorated. We are in a world in which every thing around us is richly decked with color, and I do not know that the mind need be taken away from the Great Author of all things, by the buildings dedicated to His worship being similarly adorned.

Mr. **T. MORRIS**, Associate.—I think all who have seen St. Michael's, Cornhill, must be favourably impressed with the effects of colouring aptly employed in churches; but the great value of the colouring there is the beautiful manner in which it is blended on the walls. It produces an harmonious tone more artistic than any amount of mere decoration. I think that would meet to a large extent the object Mr. Cutts has in view in advocating the decoration of these churches. No doubt, as applied by Mr. Scott, at Cornhill, colour has greatly added to the interest of that edifice, and might be introduced with similar advantage in churches of every denomination.

Mr. **C. FOWLER**, Fellow.—One thing strikes me with regard to the restoration—so called—of the City churches; it is that totally different principles must be followed from those which have been advocated so frequently in this room in the case of Gothic churches. In such restorations it has been said you should do as little as possible; you should leave things as far as possible as you find them, and simply uphold. That I think is right in an architectural point of view, because the Gothic churches were built for much the same form of service as that which they are now being restored for. The sort of service to which we are coming approximates in form more and more to that which prevailed in the days when those churches were built, and for which architects were then called upon to provide buildings; but when these City churches were built the form of the service was different, therefore "restoration" would with regard to these churches be unsuitable from an ecclesiastical point of view. What you want is to adapt them for a different form of service to that which they were intended; and I venture to think that the architect who can take one of Wren's churches or any other good church of that day, and satisfactorily adapt it for the services as now desired, would deserve more credit than one who merely builds a good Gothic church. I must say when I saw Mr. Burges' restoration of Worcester College Chapel, I was even more struck with it than I have been with some of his Gothic work, for if you look into that work you will find that a distinct 13th century feeling can be traced in the details, though the general effect is quite in harmony with the Italian building. I think myself that if any gentleman succeeds in adapting some of the City churches with as great skill as Mr. Burges has shewn at Worcester College Chapel, we shall have some very fine churches indeed.

The CHAIRMAN.—I have great confidence in submitting the usual vote of thanks to Mr. Cutts for the paper he has read, not only on account of the paper itself, but the still more interesting discussion which it has elicited. So much has been said, and so well said, that it leaves hardly a remark to be made; but I cannot let the occasion pass without offering one or two observations which occur to me. I endeavoured to appreciate Mr. Cutts' subject in the two lights in which I think he intended to be considered, viz., one architecturally, and the other ecclesiastically. With respect to the first, I think there cannot be much difference of opinion amongst the educated members of this Institute, viz., that painting is the handmaid of architecture, as is also sculpture, and whether applied to buildings of the Gothic or any other style, if applied with good taste, and if it be consistent in character and harmonious in treatment, whether in ecclesiastical or civil architecture, it is always equally satisfactory and desirable. Examples of this are presented to us all over Italy and other parts of Europe. Classical architecture nearly universally practised in Italy, was made as universally decorated unless the means for doing so were wanting; where the means existed it has been carried out with the greatest possible taste and the most beautiful effects. I need only refer to the Pallazzo Madama and the Loggie of the Vatican, at Rome, to the Baptistery and Chapter House, at Sienna, the Villa del Te at Padua, and a hundred other like examples. I think Mr. Cutts wished rather to call attention to the somewhat curious fact, that whereas modern Classic architecture is sometimes of a good type, and even when emanating from so great a master of Classical architecture as Sir Christopher Wren, yet the idea that there was a necessity of enhancing the good effect by properly conceived decoration in colour was overlooked by Wren and others; and that it is even worth while considering whether we cannot add to the credit of Wren, and the effect of the churches in London designed by him, by some attempts on his works in that direction. I agree with Mr. Seddon, that a little colour, like a "little knowledge—is a dangerous thing." Colouring, if carried out with a view to architectural effect, should be bold, uncompromising and ample. The Saint Chapelle, at Paris, has every square inch covered with colour. Yet what is the effect? Not tawdriness! nothing painful. I look upon it myself as rich, solemn and grand, and I for one should not feel the least diminution of devotion, but rather the reverse if worshipping there because I was surrounded by such beautiful art. In the same way some Classical examples might be referred to. I am, of course, speaking of really well-studied and perfect decoration as satisfactory in effect. So much then for the artistic part of the subject. I confess that personally I should hail with satisfaction the carrying out of the suggestions which Mr. Cutts has thrown out if it is possible to do so. With respect to the ecclesiastical view of the subject, and as to the question of differing arrangement for one style of religious service or another, there will of course always be a difference of opinion; but as artists we need not, and I think ought not, to go into that subject. One remark occurs to me which I think will, however, meet with the concurrence of all. If it is conceded, that every kind of art, if it be real and good, assists and enhances a sister art, painting in relation to sculpture and architecture in relation to both, if that be a truth, then if we are to delight to erect temples to Almighty God, it is our bounden duty to make them excellent by every means in our power, and with every faculty we possess, not only as regards construction and particular modes of decoration, but with a simple, earnest desire to do the very best we can. We do not hesitate in our private buildings to indulge in every luxury that taste and wealth can command, and *a fortiori*, ought we to do much more in respect of those buildings devoted to the worship of Almighty God? It is now my pleasing duty to ask you to give a vote of thanks to Mr. Cutts for his paper.

The vote of thanks having been unanimously passed,

Rev. E. L. CUTTS.—In acknowledging the thanks you have awarded to me, I congratulate myself on two grounds—first that I have succeeded in making my paper the means of eliciting a valuable discussion, and next that I have avoided letting it be the source of a religious dispute. I was a little afraid of the latter, and took care to avoid anything that might lead to it. I venture to think that if there has been anything of the kind I did not provoke it. It is always a great pleasure to me to be permitted to come here, as an amateur, to learn from you, and I always do carry away some valuable instruction. At one time this evening I was afraid I was going to be sent away with the dictum of a learned Professor, that architecture ought not to be helped by the sister arts of painting and sculpture; but the subsequent remarks of the Chairman and others have sufficiently vindicated their connection. I was happy in being able to explain to another learned Professor what a baldachin is, and I am more happy in being able to tell him that the only one which I mentioned is the original one in St. Mary's Woolnoth, whose retention I vindicated.

The meeting then adjourned.

BRIEF MEMOIR OF THE COMMENDATORE POLETTI, HONORARY AND CORRESPONDING MEMBER.

By Professor DONALDSON, P.P., Hon. Sec. For. Corr.

THE Commendatore Luigi Poletti, born at Modena in 1793, deceased the 2nd of August, 1869, in his 77th year, at Baveno, on the Lago Maggiore. He had gone thither in order to examine the columns of red granite in the quarries on the Lake, which were preparing to be put up in the Portico to the principal front of the Basilica of St. Paul's, outside the walls of Rome. He had left Rome only on the 2nd of July, was seized with a sudden illness, and in less than two days fell a victim to the attack. His principal works are at Rome, where he resided. The most important is the total reconstruction of St. Paul's after its destruction by fire, and in the restoration of which he scrupulously adhered to the details of the original. So unsparing was the Pope, and so munificent the contributions to its adornment, that nothing can be imagined more splendid than the profusion and richness of its decorations, with its marble columns, the facings of the walls with the same material, of every variety of tone, the bronzes, and mosaics, and marble floors. Even the Viceroy of Egypt sent blocks of the rarest alabaster for the choicer columns, and pilasters of the high altar and entrance doorway. In fact, the cost has been calculated, exclusive of these gifts, to reach a million and a quarter of our money, and the result a most magnificent church, rising as a phœnix from the flames. It is not for us to question the wisdom, or utility, or pious motives of such an expenditure in rebuilding a church in a most unhealthy situation, from which the very monks, its usual inhabitants, are obliged to fly for months together, on account of its pestilential atmosphere, and it is often surrounded for weeks by the overflowing of the waters of the Tiber. He also erected the graceful column to commemorate the dogma of the Immaculate Conception in the Piazza di Spagna, at Rome, adorned with the noble statues of his colleague and friend Tenerani, who survived him only a few months. His latest complete work was the Scotch College, opposite the Palazzo Barberini. He also built several churches, cemeteries, houses and erections in other parts of Italy; was ex-President and Professor of Architecture in the Academy of St. Luke, and honored by a public funeral at the expense of that body. He was author of three learned dissertations, read in the Archælogical Academy, on the Peoples and Primitive Arts of Italy, and had made great progress in a fourth, which it is to be hoped will be published. With deep erudition he sought to prove that that region was inhabited by an indigenous race in the remotest times, even before the Greeks; that they emigrated into Greece, and thither carried their arts and wisdom, hence deducing that Italy had its own civilization coeval with that of Greece, if not anterior to it, as proved by its architectural monuments when considered for the space of two great epochs, the one from the expedition of the Argonauts to the origin of Rome, the other from that period till the Empire, when all Italian science and art were merged in that of Rome. These evidences of his taste and erudition prove, that he was a man of various attainments, and worthily held his high position in the estimation of his countrymen. He was of most kindly disposition and obliging manners, and ready to assist the researches of his foreign brethren in art. He was never married, and consequently having no children, he left his modest fortune to his native city of Modena for the promotion of his own favourite studies, less the sum of 3,000 scudi. This was to found a biennial prize of 200 scudi, to be awarded by the Academy of St. Luke at Rome, to the author of the best essay on the Fine Arts by an Italian artist, with 100 scudi to cover the cost of publication. The subjects are to be alternately Architecture, Painting, and Sculpture. We thus see how this amiable and able architect not only honourably followed out his profession, but that even after death he generously desired to promote, as his will expresses it, the study of nature and of truth in their application to the Fine Arts, as a perpetual canon. He was buried in St. Paul's Basilica near the entrance door in a grave, which by the gracious permission of the Pope he had been specially allowed to construct for himself.

Royal Institute of British Architects.

PRESENTATION OF THE ROYAL GOLD MEDAL AND INSTITUTE PRIZES.

At the Ordinary General Meeting, held on Monday, the 2nd of May, 1870, Sir WILLIAM TITE, M.P., President, in the Chair.

THE preliminary business of the evening having been brought to a conclusion,

The **PRESIDENT** rose and said.—Gentlemen, I now come to what probably is the most agreeable incident of the year connected with this valuable Institution; I mean the presentation of the Royal Gold Medal. I think we are infinitely indebted to Her Majesty for the kind continuance of her gracious pleasure in receiving our annual nominations for this award so courteously and so kindly as she does. She has never received, I will venture to say, any name with greater satisfaction than that of the gentleman whom I have to bring before you to-night in the person of my old friend Mr. Benjamin Ferrey. I believe that he and I began life about the same time, and I am afraid that was a good while ago; he tells me that he was a pupil, not of the elder Pugin, but of the eldest Pugin, for there have been three of that name in my day and generation. I recollect perfectly well this Mr. Pugin, when I was a very young man in the office of Mr. Laing, architect to the Custom House, whose pupil I was. Mr. Pugin came to the Custom House, then in course of erection, to make some drawings, for he was one of the ablest draughtsmen of the day. Mr. Pugin, besides being distinguished as a draughtsman, was one of the earliest pioneers of the study of Gothic architecture. I dare say you all know the book by Pugin and Mackenzie—though you cannot recollect its publication as I do. The illustrations of that work were, I believe, to a great extent etched by Mr. Pugin himself, and it was one of the great precursors of architectural literature, for I think it was published almost as early or earlier than Britton's great works of that day. It introduced a taste for Gothic architecture; and in that book were engraved some of the most agreeable and, so far as I recollect, some of the finest specimens of that architecture. It was most interesting and valuable at the time to which I am now referring; for when I was a student, as my friend Professor Donaldson was, the books which could teach us and enable us to learn that peculiar and interesting branch of our art were very few, and not very meritorious. The one however, that Mackenzie and Pugin produced deserves even at the present day our consideration.

My friend's history, as I have said, began at an early period of my own life; and though I had not then the pleasure of knowing him, as I have said, I knew his master; I feel much gratification in introducing Mr. B. Ferrey's name to the notice of the meeting in association with this award, as I have had the honour of doing to Her Majesty the Queen. He is, *par excellence*, a designer of churches. We all know his merit in that way. I have asked him for a list of his works. He has furnished me with it; but it is so long that I should weary you if I read it through. We all know the great merit—the wonderful merit in point of fact—of some of these structures. The one perhaps best known in London is St. Stephen's Church, Rochester Row, built at the expense of that generous lady Miss Burdett Coutts, whose acquaintance I have recently made at Torquay, where she was staying, like myself, on account of her health. I think that church is quite worthy of her munificence, and the desire of every one to see a monument of taste and elegance erected so successfully as has been done by my friend Mr. Ferrey. The large church of St. James, at Morpeth, and that national work—the restoration of the Lady Chapel, and west front of Wells Cathedral, are further instances of his skill. I hope our friend may live to see the completion of the latter work, which is one of the worthiest restorations of one of the finest buildings undertaken by any architect of the present day. I may also mention, having reference to the medal I shall have the honour to present, that our friend, amongst others, designed and built Esher Church. Her Majesty the Queen, when residing at Claremont, has recently seen that church, and, as I understand from the best authority, was much pleased with the building. Now I leave the churches; there are too many to be enumerated, and indeed I do not know how many there are.

Then I come to other buildings, and amongst them I find the Dorset County Hospital, which is considered a very good hospital, as I know; the Town Hall at Dorchester is also his work. Then, going to the sister country, he restores the barbican, the curtain wall and towers of Killaleagh Castle. I will next mention the large house or palace of Sir Watkin Williams Wynn at Wynnstay, in the place of that which was burnt down, a work of great merit and much beauty, as I know from having frequently seen it. Nor must we forget the large mansion at Bulstrode, building for the Duke of Somerset. All these works are, I think, creditable to our profession, but infinitely creditable to our friend, to whom I present this testimony of our esteem and regard. All I can say in addition is, I hope he may long live to cultivate his skill and great talent, and find the occupation for it that he has hitherto found. I have the pleasure to notice that, like Mr. Pugin, he has the advantage of having a very skilful son, who has won some of our prizes, and will possibly win many more. I am delighted to think that a worthy father is likely to be followed by an equally worthy son. As we have a good deal of business before us, I will not add more to these brief remarks, and indeed I could scarcely say all in my friend's presence that I should like to say. I have now the pleasure to ask him to stand forward to receive the highest testimony which the Institute of British Architects can confer upon any one. I have the pleasure of handing to him on behalf of the Institute this elegant mark of our esteem and regard for him, and of our gratification at his professional success. I hope he will long live to be an ornament to that profession, and to be decorated by the medal which I have now the pleasure to present to him.

The medal having been presented amidst the plaudits of the meeting,

Mr. FERREY said.—Mr. President and gentlemen, I cannot find words to express the deep feeling which I entertain of the great and unexpected honour you have this evening conferred upon me. When I consider those who have preceded me—the distinguished men, whom I will not mention, but whose names are well known to you—I cannot but deem myself unworthy of the reception of this compliment. It would ill become me to detain you by any lengthened observations. I will only say it is to me a source of the greatest pride—it must be so—to receive at the hands of my professional brethren such a mark of their consideration and regard. I will not dwell upon the subjects which have been brought before your notice this evening by the President, because in doing so I should detain you at some length. I think I shall best consult the feelings of the meeting, and that I shall do that which is most becoming on my part when I express to you my very deepest sense of the compliment which you have conferred upon me, and of which I shall ever entertain the most grateful remembrance.

The PRESIDENT then proceeded to present, with appropriate remarks, the Soane Medallion and other Institute Medals and Prizes, awarded in accordance with the resolution of a Special General Meeting, held on the 14th March, as follows:—

To Mr. ERNEST C. LEE (Associate), of 10, Lincoln's Inn Fields, for his design for a Railway Terminus. *The Soane Medallion.*

To Mr. G. HUSKISSON GUILLAUME, of Southampton, for an essay on the requirements for a Town Church. *The Institute Medal.*

To Mr. EDWIN J. MUNT, of 12, John Street, Adelphi, for measured drawings of Castle Rising, Norfolk. *The Institute Silver Medal and £5. 5s.*

To Mr. ARTHUR HILL (Associate), of 34, Keppel Street, Russell Square, for measured drawings of Ardfert Cathedral, Templenahoe and Kilmelchedor Churches. *A Medal of Merit.*

To Mr. R. A. CAME, (Student), of 39, Great James Street, for his design for an Ornamental Ceiling. *The Students' Book Prize.*

The proceedings of the Special Meeting then terminated.

Royal Institute of British Architects.

At the Ordinary General Meeting held on Monday, 16th May, 1870, T. H. **Wyatt**, President, in the Chair.

PRELIMINARY PROCEEDINGS.

CASE OF MR. E. M. BARRY, R.A., AND THE OFFICE OF WORKS.

The President said that before proceeding with the business of the evening, he wished to inform the members what steps had been taken with reference to the subject of the last special meeting. He would state that a deputation from the Institute had waited on Mr. Gladstone in reference to the case of Mr. E. M. Barry. Sir W. Tite and several members of the Council attended on the occasion, but as he (Mr. Wyatt) was unable to be present, and therefore was not in a position to report precisely what took place, he would ask Mr. Eastlake to read an abstract of the proceedings which he had prepared, and which would probably be interesting to the meeting.

Mr. **Eastlake** then read as follows:—

Deputation to the Government.

"In accordance with a resolution passed at the Special General Meeting, held on Monday, the 9th May, 1870, a deputation from the Institute waited on Mr. Gladstone at Downing Street at 3 p.m., on Friday, the 13th inst. It consisted of the following members: Sir W. Tite, M.P., and A. J. B. Beresford Hope, Esq., M.P., Ex-Presidents; E. I'Anson, Vice-President; Sir Digby Wyatt, Messrs. G. Aitchison, A. W. Blomfield, D. Brandon, F. P. Cockerell, H. Currey, R. W. Edis, G. Godwin, J. H. Hakewill, O. Hansard, C. F. Hayward, R. Kerr, T. H. Lewis, J. Peacock, E. Roberts, R. L. Roumieu, T. Roger Smith, J. P. St. Aubyn, G. Truefitt, F. Warren, W. White, S. Wood, J. P. Seddon, Hon. Sec., C. L. Eastlake, Assistant Sec.

The deputation was received by Mr. Gladstone, with whom were also the Chancellor of the Exchequer (Mr. Lowe), and the First Commissioner of Works (Mr. Ayrton).

Sir W. **Tite**, having introduced the members, said that it was not his intention to refer to the legal question of the right of ownership to architects' drawings; he might, however, state that the resolutions recently passed by the Institute, and copies of which had been sent to every member of the House of Commons, only confirmed the professional custom and practice which had long existed in this country. Sir William added that he had never been asked by any client to give up his drawings, and if he had been so asked, he would certainly have declined to do so. The main object of the deputation was, however, to call the attention of her Majesty's Government to the abrupt dismissal of Mr. E. M. Barry from his office of Architect to the Houses of Parliament, under circumstances which were made known in the correspondence, recently published by order of the House of Commons, between that gentleman and the Office of Works. The whole affair had been fully discussed at a Special Meeting of the Institute, and he was bound to say that the feeling in the profession was exceedingly strong on both points, viz.: the question as to the ownership of the drawings, and also as to the slight cast on Mr. Barry. Having given this short explanation, he would now leave those who had taken a prominent part in that discussion to speak for themselves on the subject.

Sir **Digby Wyatt** stated that he represented his brother, the President of the Institute, who was unavoidably prevented from attending. He referred to the strong feeling entertained by the

Institute that Mr. E. M. Barry had been dismissed from office in a very unjustifiable manner, and especially alluded to the uncourteous, and he might even say rude nature of the answers which that gentleman had received during his correspondence with the Office of Works on this subject. Sir Digby dwelt on the imperative necessity of consigning public buildings of any architectural importance to the care and professional superintendence of a competent architect, which was the universal custom in foreign countries. With regard to the ownership of architects' drawings, he observed that the deputation based their views on the professional custom recognized not only in London, but in the provinces, on this subject. He trusted that Her Majesty's Government would remember that Mr. Barry had neither refused, nor wished to withhold, any information of a practical kind which was necessary to the Office of Works, and which it was in his power to supply; but, as a matter of principle, sanctioned by undeviating custom, it must be maintained that the drawings and documents prepared for the purpose of erecting a building were the property of the architect who designed it. Sir Digby remarked, that while the policy of the Government might be dictated by worthy motives in promoting national economy, that policy would effect but a short-sighted economy if exercised on occasions like the present. He would, moreover, remind Her Majesty's Government that Mr. Barry, during his term of office, had not been paid by salary, but by commission, for works carried on, and that the extent of such commissions had not exceeded £300. per annum, so that the expense saved for the future was not worth consideration. Sir Digby added that the present unsettled state of the law of copyright was an additional reason why an architect should maintain the right of ownership to his drawings, which in point of fact constituted his sole protection against piracy of design.

Mr. BERESFORD HOPE, M.P., spoke, as Past-President, of the architectural importance of the Houses of Parliament, and of Mr. E. M. Barry's zeal and attention to the professional supervision required from him while he remained in official charge of the building, and during the alterations and additions carried on in connection with them. He referred to the cavalier and abrupt manner in which Mr. Barry had been dismissed from office, and to the injury likely to ensue to the public service in the Department of Works if the course adopted by the Government should be formally confirmed.

Mr. GEORGE GODWIN, F.R.S., said he had been requested, as an old member of the Institute, to add some words to what had been already said. First, as to the ownership of drawings; as a matter of universal custom they belonged to the architects. As the conductor of a professional journal he had corresponded during five-and-twenty years with persons in all parts of the kingdom on this subject, and he could say that in no one case of which he was aware had the claim when made on the part of the employer been maintained. He was not aware that any case had been settled in a court of law; representation of the existence of the custom and the common sense on which it was founded had sufficed to bring about a settlement. The custom prevailed everywhere. He believed copies of resolutions to that effect from societies in England, Ireland, and Scotland, not to speak of America, had been already handed to the Minister. He thought the Courts would hesitate before coming to any decision in opposition to a custom so long and generally held, even should they happen to be of another opinion. It had been asserted in a public journal that the Institute of Architects had wrongly interfered in expressing their opinion that it was necessary for the worthy maintenance of national monuments and buildings that they should be under the superintendence of specially educated men of high standing. He could not agree in this objection. The Institute as a body were wholly disinterested in so speaking, and he knew no other body from whom the public might more fairly look for an expression of opinion on the subject. Reference had been made to various public buildings, each placed under the superintendence of an architect. He might add to the list by naming nearly all our cathedrals. These important structures had suffered for years by being left to the care of a mason or a clerk of works; but the opinion of deans and chapters had become educated on the point, and now he believed there was not one that was not under the supervision of an architect. The profession were strongly affected by the course that had been pursued towards Mr. Edward Barry and the important questions that were raised by it, and he ventured to urge that it called for reconsideration on the part of the Government.

Mr. JOHN P. SEDDON, Hon. Sec., referring to the question raised as to the owership of drawings, advanced as a reason for the custom of architects retaining them the fact that an architect, in his position of umpire between his client and the contractor, ought to hold the contract drawings as between those contracting parties. Accidents and claims might arise after the completion of the work, and the contractor might fairly look to the architect for the drawings which were evidence of the contract, particularly as oftentimes the employers were temporary committees disbanded when the work was complete, and by whom the drawings might be lost or mislaid. The detailed drawings were only instructions given to the contractor as explanatory of the contract drawings, and it would be as reasonable to call upon the architect to give up his private letter-book as those. Mr. Seddon also pointed out that contract drawings never displayed the course of flues and drains, at any rate as executed, and therefore such drawings as Mr. Ayrton asked for would not be found among them, but were usually made during the progress of the work, and every architect would gladly supply his employer with such or copies of them.

Mr. AYRTON, First Commissioner of Works, replied, that the observations made by the deputation, and indeed the object of the deputation itself, was founded in error, and in a complete misapprehension of the course taken by the Office of Works. The correspondence which had been published between that Office and Mr. E. M. Barry contained only partial information on the subject before them; and Mr. Barry could, if he pleased, supply further details, which would put a very different construction on the matter. He (Mr. Ayrton) begged to state that, in referring the question which had arisen respecting the right of the Crown to the Law Officers of the Crown, he had taken the only course by which he conceived he could arrive at a proper solution of that question; and he had only adopted that course after the refusal of the executors of Sir C. Barry and after Mr. E. Barry's refusal to recognize the right of the Crown to certain documents which were required by the Office of Works. It was not the whole of the drawings which had been required, but a certain portion which were necessary, and for a specific purpose. He disclaimed any intention to be discourteous to Mr. Barry. The letter to Mr. Barry did not state that he (Mr. Barry) had been dismissed from his office, but that certain official changes were being carried out. Mr. Ayrton added, that it would be impossible for him then to enter into detail, but the whole question would be discussed in the House of Commons that night, when the public would be in a better position to judge of the matter.

After a few words from Mr. Gladstone, who said that he felt obliged to the deputation for stating their views on the subject, which should receive due attention from Her Majesty's Ministers, the deputation withdrew."

The Report having been read,

THE PRESIDENT said the Council had thought it right to postpone any further action in the matter until the opinion of the Law Officers of the Crown had been pronounced, and until it was known what further measures would be taken in the matter.

Mr. CHARLES BARRY, Fellow, said he was unwilling, for obvious reasons, to take any prominent part in the discussion of a subject interesting to all members of the profession, but he begged permission to make one or two observations bearing upon it. Mr. Ayrton, in his speech in the House on Friday evening, said that Mr. Gilbert Scott, as well as his (Mr. Barry's) partner and himself, amongst various architects of England, had acquiesced in the course proposed to be adopted in the case of the architect's drawings of the Houses of Parliament. To that statement he wished personally to give a most emphatic denial; he and his partner had addressed a letter to 'The Times,' which he presumed would appear on the following morning, stating that not only did they not acquiesce in the Department of Works retaining all the contract drawings in the case of the new buildings at Burlington House in their custody, but that they strongly protested against such retention ; the fact being that the contract drawings in the case referred to were all signed and executed at the Office of the Department of Works, under the eye of the Secretary of the First Commissioner. Those drawings were detained, the architects were unable to get them away from the office, and it was only after a great deal of trouble and pressure that they were allowed to take tracings of those drawings. Therefore, so far from having acquiesced in the retention of the drawings by the Department, his partner and himself protested against it; and he now wished to state his adherence to the professional custom as enunciated in the resolution passed at the recent special meeting of the Institute. He quite concurred in the view taken by the Council, that any further steps in this matter would be undesirable at present, save in one respect, viz., that inasmuch as the opinion of the Law Officers of the Crown, invited by the Government, would necessarily be *ex parte*, the Council, he would suggest, should take such means as might be open to them to place before those gentlemen the unanimous testimony which the Council had received from the principal architectural societies of the country, and such others as no doubt they would receive on the same subject. Otherwise, the opinion of the Law Officers would be *ex parte.*

Professor **DONALDSON**, Past-President, took upon himself to say, that no steps would be taken by the Council in this matter except under the advice of their Honorary Solicitor.

Mr. **SEDDON**, Honorary Secretary, said it had been determined by the Council to print all that had appeared on the subject, including the proceedings of the recent special meeting.

COLOGNE CATHEDRAL.

Mr. W. **BURGES**, Fellow, wished to occupy the attention of the meeting for a few moments, in reference to a subject which he brought before them a considerable time ago, viz., the projected alteration in the west front of Cologne cathedral—by which the gallery at the base of the western window would be sacrificed for the sake of producing a better effect in the stained glass about to be presented by the Prince and Princess of Prussia. It was only on the solicitation of Professor Donaldson, in whose hands the matter would more properly have been placed as Honorary Secretary for Foreign Correspondence, that he (Mr. Burges) had taken it up, and he need hardly say it had involved the writing of a great number of letters. The state of the case was as follows :—The present west window possessed neither mullions nor tracery, in fact, the only ancient part was that on the left side of the old south tower, which clearly showed that the architect of this tower had designed and begun a window with double tracery in the lower part, like the window actually executed in this tower, consequently Mr. Voigtel, the architect of the cathedral, intended no destruction but only an abandonment of an existing design. M. Reichensperger affirmed that the west window in Boisserèe's work was a mere imagination. An ancient original drawing showed the plan of a window with double tracery, and another old drawing (an elevation) proved nothing. It appeared that the battle was between that gentleman, supported by the ecclesiastical authorities on the one side and the architect and Berlin bureaucracy on the other, the architect having the idea that the exterior plane of mullions would spoil the effect of the stained glass placed in the inner plane. Mr. Burges concluded by observing that it seemed hardly to him a case for the interference of the Institute, more especially as no destruction of old work was involved. It was a pity that M. Voigtel should not be aware that modern stained glass rather gained than lost by being partly obscured; for his own part he (Mr. Burges) greatly deplored the omission of so prominent and beautiful a feature as the double plane of tracery.

Professor **DONALDSON** while agreeing that it was not a matter in which the Institute could in any way interfere, expressed his gratification that Mr. Burges had been so kind as to follow the subject up as far as he had done, as he was sure it could not have been placed in abler or more judicious hands.

The following Papers were then read :—

ON SOME ANCIENT IRISH CHURCHES.

By Arthur Hill, B.E., Associate.

I CANNOT commence with better words than those of Mr. J. H. Parker, in concluding an article published in 'The Gentleman's Magazine' for March, 1865. "The study of Irish architecture," he said, "is only commenced, and will require the labour of many heads and hands to work it out as it ought to be."

The conqnest of Ireland took place in the year 1172, separating her architectural history into two great divisions: first, the buildings of the native Irish, and secondly, Anglo-Irish building; the former is the only existing remains of a purely Celtic style in the world, and as interesting as any of the minor styles of Europe. The latter so plainly shows its English origin, that it has no claim to be considered a distinct style. The works contained in this group are of all kinds, both ecclesiastical and domestic; they are inferior in size, and generally speaking, later in date than structures of a similar character in England.

Of the many works that come under the head of "native building" there are but four classes of structures professionally interesting to us—namely, the Round Towers, the Crosses, the small stone-roofed buildings known as "Oratories," and the churches, which are called in Irish "Daimliag"—literally meaning "stone house." The erection of these works may have continued later than the Conquest, at least in those parts of the country that remained more peculiarly Irish, while the Anglo-Irish style could by no posibility be earlier than that time. But these later works are generally so well authenticated that there is no room for disputation as to dates. Unfortunately, however, it is not so with regard to the primitive Irish works; for the documents we possess are not sufficiently trustworthy, nor are they so precise in their language as to enable us to identify beyond dispute any but one or two of the numerous buildings of this period. Hence the many wild ideas that have been put forth regarding their dates; and the many battles that have been fought on the subject. It may therefore be advisable for me briefly to mention some of the more prominent theories on the subject.

It appears that the first colonists of Ireland were a family of the Phœnician or Cuthite race—descendants of Ham; a people universally celebrated for their building powers. Their successors the Celts, who established themselves in Ireland some centuries before the Christian era, were civilized and taught the arts by this race whom they had conquered.

An elaborate and valuable work has been recently published by Mr. Marcus Keane, entitled, 'The Towers and Temples of Ireland,' in which he attempts to prove that the buildings we call "churches" were originally heathen temples, erected by the Cuthites before the time of Solomon; and to sustain this position he endeavours to draw a parallel between them and the Cyclopean buildings of Greece and Italy, the rock temples of India, and the ancient monuments of Central America; and also tries to show that the names of the various saints, to whom these churches are dedicated, are identical with the divinities or hero gods worshipped by this people. But such an absurd idea can never be sustained; and I feel sure that a professional observer, judging even from drawings or photographs, would ascribe nothing but a Christian origin to the buildings.

No doubt you are all familiar with Dr. Petrie's learned work on 'The Ecclesiastical Architecture of Ireland anterior to the Anglo-Norman Invasion.' The most important principles he establishes are, that the round towers and adjacent churches are contemporary, Christian, and ecclesiastical, and that they were erected at different periods from the seventh to the thirteenth centuries. He refers largely to the ancient manuscripts of the country, and proves beyond doubt that there was stone building of some kind in Ireland at a very early period of the Christian era, but succeeds in putting a definite date on only one building, viz. Cormac's Chapel, Cashel, which he shows, by extracts from nearly all the manuscripts of the country,* to have been built in the year 1127, and consecrated "A.D. 1134, by many chiefs both lay and ecclesiastical."

The school that finds most favour perhaps on this side of the channel, contends that there was no stone building in Ireland of any kind before the eleventh Century; but this is far too sweeping an assertion to be accepted; though it may be quite true as far as regards those churches that exhibit some architectural pretensions, yet these were not the first stone buildings in the country. The followers of this school argue from their wide and extended knowledge of European building in general; and this is undoubtedly the proper light in which to view the architecture of any country; but at the same time the history of that country and the study of her ancient literature must not be lost sight of: for the ignorance of a mere archæologist, in the technical matters of our profession, is not more blameable than the narrow-mindedness of a mere architect in understanding, and in reconciling the many anomalies that occur in ancient documents.

We have abundant historical evidence to show the skill attained in early times by many ecclesiastics as artificers of shrines, bells, &c., and as illuminators of books. The celebrity of the Irish schools of learning is also well known; they were sustained even through the most troublous times, educating not only native but foreign youths, and sending missionaries all over Europe; some of the brightest lights in those dark ages were Irish-reared ecclesiastics.†

It is not in my power to-night to give a complete history of the Irish styles of building; to do so would require more extended knowledge than I possess; therefore I shall attempt nothing beyond a brief description of the three buildings that I measured, and have now the privilege of laying before this meeting. The Cathedral of Ardfert belongs to the Anglo-Irish class; the other two buildings, viz. Templenahoe and Kilmelcheder, are Celtic works, known as "stone churches."

I shall in no way mention either the "Round Towers" or "Crosses," but shall find it necessary presently to refer to a couple of "Oratories" that exist near Kilmelcheder. As a class they are small, rectangular buildings, of dry masonry, stone roofed, but without the use of the arch, for the walls are carried up with an inward tendency until they meet and are covered by a single course of stone, forming the ridge; each stone being horizontally bedded but overlapping like a corbel, until the form of the roof is attained. The entrance is invariably in the west, and usually there is a small window in the east gable; but they possess no architectural detail whatsoever.

The "churches" are larger in size, also rectangular, generally stone roofed, in which the arch is sometimes employed, and they possess ornamental features of great beauty. Though small and insignificant when compared with the churches of England and the Continent, and though there is little in them as works of art to occupy the mind, yet they are not wholly devoid of interest; for their peculiar smallness, bearing so striking a resemblance to the early Greek churches, and their rich and beautiful ornament, though like the Norman of England and France to some extent, yet possesses such strongly marked peculiarities that justify us in considering them as a distinct European style.

These buildings are all situated in the county of Kerry; Tralee, the capital of that county, is a short railway journey from Killarney, and Ardfert lies but a few miles beyond Tralee.

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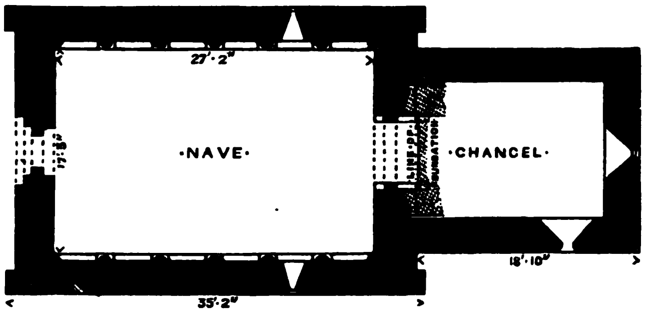
* Petrie, pages 290—1.

† 'Ecclesiastical History of Ireland.' Dr. Lanigan.

In ancient times Ardfert was a place of some importance, and consequently suffered severely, for it is recorded that the Abbey and town were burnt in the year 1089, in 1151, and again in 1179. There are still several buildings remaining here, they are rather prominently situated on the top of a limestone rock, that rises abruptly from the plain beneath. The most ancient of them is Templenahoe —according to the Ordnance Maps.* A few feet to the west stands another rectangular church, Temple-na-Griffin, of recent date, and comparatively of little interest. To the east of these, and occupying the site of a more ancient building stands the Cathedral. In former times there was a Round Tower here, but it fell a century ago, and now no trace of it remains.

The 'Annals of Innisfallen' state that in "A.D. 500, died Carpain, Bishop of Iferte," and from that date it remained a bishop's see, until the year 1663, when it was united to the diocese of Limerick. The name may mean either "the Hill of Miracles" or "the High Place of Ert," Ert or Ercus being a celebrated Bishop, under whom St. Brandon studied when a youth. St. Brandon, to whom the cathedral is dedicated, was born in the year 484, and died on the 17th of May, A.D. 577.



KILMELCHEDER lies more than 35 miles to the west of Tralee, at the extremity of the Dingle headland, and is grandly situated a little way up in the Brandon Mountains, overlooking Swerwick Harbour and the sea. The nave is the more ancient part of the ruin, the chancel being an addition.

The only reference to this place in any of the Ancient Irish MSS. that has come to my knowledge is contained in the very interesting volume that has been published by the Irish Archæological Society, entitled 'The Martyrology of Donegal, a calendar of the Saints of Ireland,' and the days of their celebrations. Under the 14th of May we find the following entry:—" Anno Domini 636, MAOLCETHAIR, son of Ronán, son of the king of Uladh, of Cill, Melchedair, near the shore of the sea to the west of Brandon Hill. He was of the race of Fiatach Finn, Monarch of Erin."

The date must refer to some unrecorded event in the life, or to the martyrdom of this Royal Saint, as there is nothing to connect it in any way with the buildings of the neighbourhood. The only means then remaining to us of obtainining an idea as to the age of this church, will be by comparing it with some structure of which the date is already determined.

Close to the church there exists the ruin of an oratory, that is probably one of the earliest specimens of Christian building in the country. It has an extremely archaic appearance, owing to its gables being inclined almost as much as the walls, and having its roof something of an ogee form. It is well figured, and described in a paper by the late G. V. Du Noyer, to the Kilkenny Archæological Society, and published in the 'Proceedings' for January, 1864.

About a mile below in the valley, stands the most beautifully constructed of these buildings that now remains, and it is absolutely perfect. The gables are upright, and the roof is in the form of a simple pointed arch, and not an ogee like the former, but it is constructed in exactly the same way. Though these oratories are of great interest, in an archæological point of view, as specimens of early

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* Petrie, page 133.

Christian stone building, yet they are nothing but huts; for their features are not architecturally treated—one cannot tell where the walls end or the roof begins for example—and they possess no detail of any kind.

Now if we turn to the more ancient part of Kilmelcheder—that is the nave, we find a great step has been taken in advance of these early works; an eaves course—though a simple one—marks the termination of the walls, and gives to the roof its proper dignity. The detail is rich, and executed in a very fine grained sand stone, that I am strongly inclined to think even Caen stone. The stone roof, now entirely disappeared, was constructed on the corbel principle in the same way as the oratories, but was treated with a double slant—like a *Mansard*—tending to ease the thrust into the upright line of the walls. It is not till we examine the chancel—until we emerge another step out of the cloud of antiquity that still surrounds these buildings—that we find the simpler though less scientific expedient adopted of upright walls and slanting roof. The transition is so very evident, from the ogee and simple pointed gables of the oratories to the *Mansard* form of the nave roof, and finally the simple gable of the chancel, that this feature alone would be sufficient to determine the relative ages of the buildings.

In the absence of any conspicuous detail in the chancel, the only feature—except the east window, that can give us any aid, in comparison with other works, is a projecting band of about 9 inches wide, that ornaments the gable on the exterior. [See plate East End.] It is worked in the solid from horizontally laid stones. Precisely the same feature, executed in the same way, occurs in Cormack Castle, Cashel (A.D. 1127-34). And as we do not possess any distinct historical record regarding Kilmelcheder, I think that this feature, together with the general character of the work, is sufficient evidence, sufficient at least for our present purpose, to conclude, that the addition—that is the chancel—is a work of the early part of the twelfth century. There is at present no clue to the date of the original church, but we cannot do its antiquity much violence by ascribing it to the eleventh century, that is about a hundred years older than the addition. And as to the oratories all that can be said regarding them is that they are still more ancient.

I am not aware that any one has previously attempted to fix a definite date to this building, you must consider therefore that I put this forward in no way dogmatically, but altogether as a suggestion, which I hope others better qualified to give opinions will take up and consider. For this church is a link connecting us with the most ancient remains of the country, and to perfect knowledge every link in a chain must be studied.

The peculiar form of roof employed in the building was evidently a local custom, and derived from the oratories. The arched or vaulted ceiling was frequently used in other parts of the country. That we may be the better enabled to compare these different systems I have enlarged a drawing of a little church at Killaloe near Limerick, from Wilkinson's 'Geology and Architecture of Ireland.' It is an admirable piece of construction, and contains a valuable suggestion to the concrete builders of this nineteenth century.

The entrance to this church, as was universally the custom in the ancient buildings, is in the west end; it is constructed with that peculiarly Irish feature, sloping jambs—the jambs instead of being parallel, incline towards each other; they are treated with angle shafts carrying an arch in two "orders," surrounded by a label moulding that stops above the abacus on heads of animals, and into which a man's head, simply carved, is introduced as a key-stone. [See plate West Door.] The arch is filled with a plain tympanum, carried on piers independent of the arches, on the inside face of which is worked in the solid a grotesque head, that Mr. Keane calls "the head of an ox—the Golden Molach himself," for he says, this building was a temple of Molach, because—as far as I can understand him—the sound of Molach-or is very like Melcheder.*

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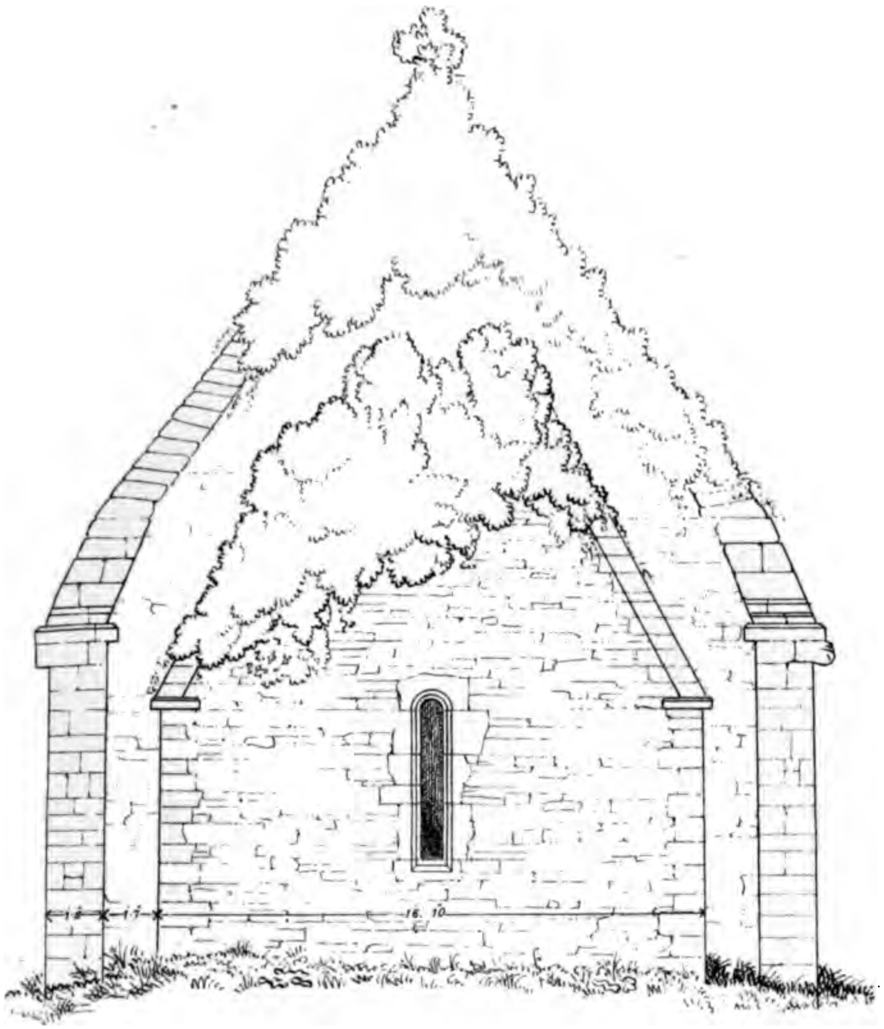
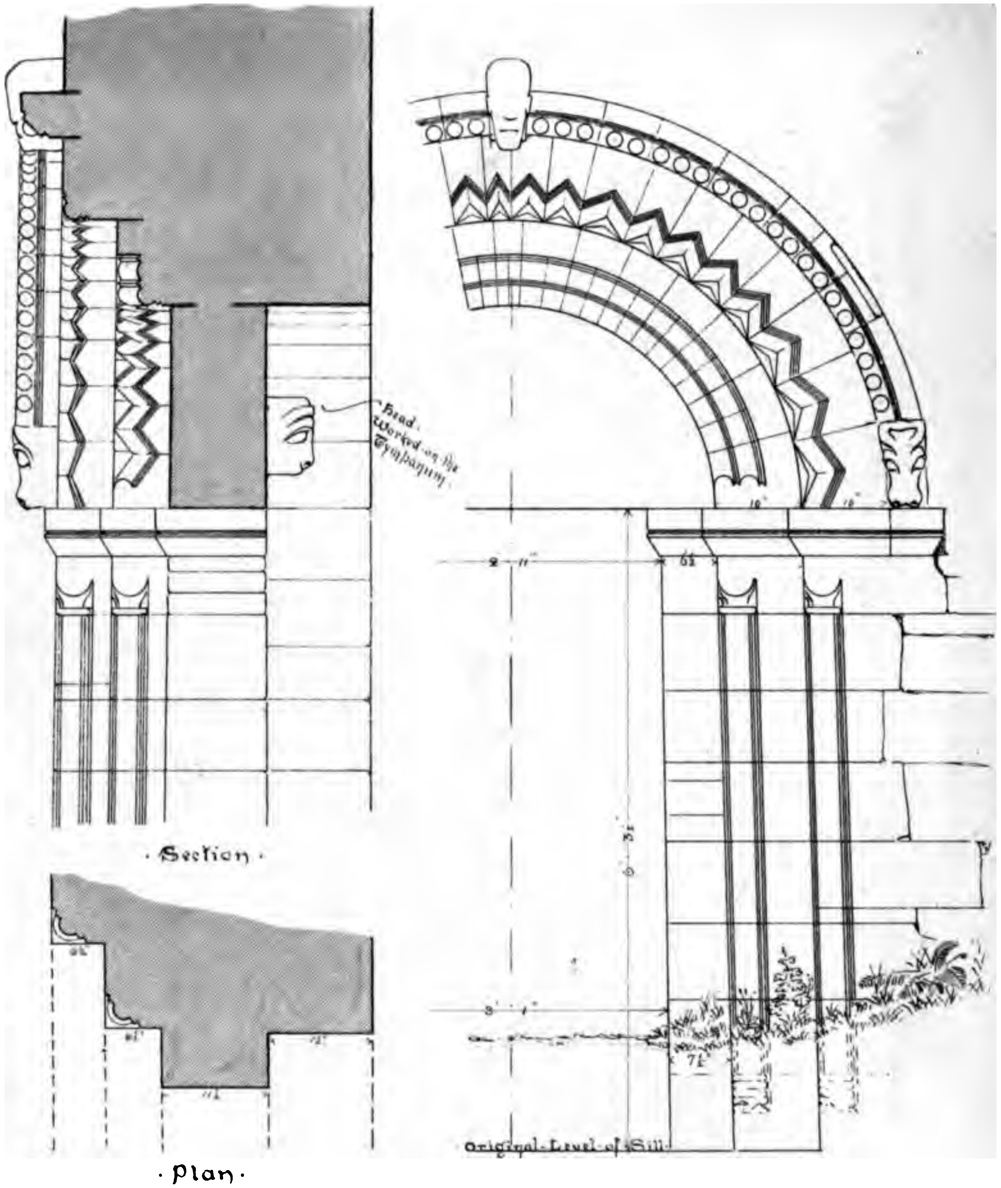
* 'Temples and Towers,' page 23.

Kilmelchedor … Cº Kerry





EAST END

Scale of 0 2 4 6 8 10 12 Feet

WEST DOOR.

Scale of 0 1 2 3 4 Feet

Photo-Lithoᵈ for the R.I.B.A. by Whiteman & Bass, London.

No 2

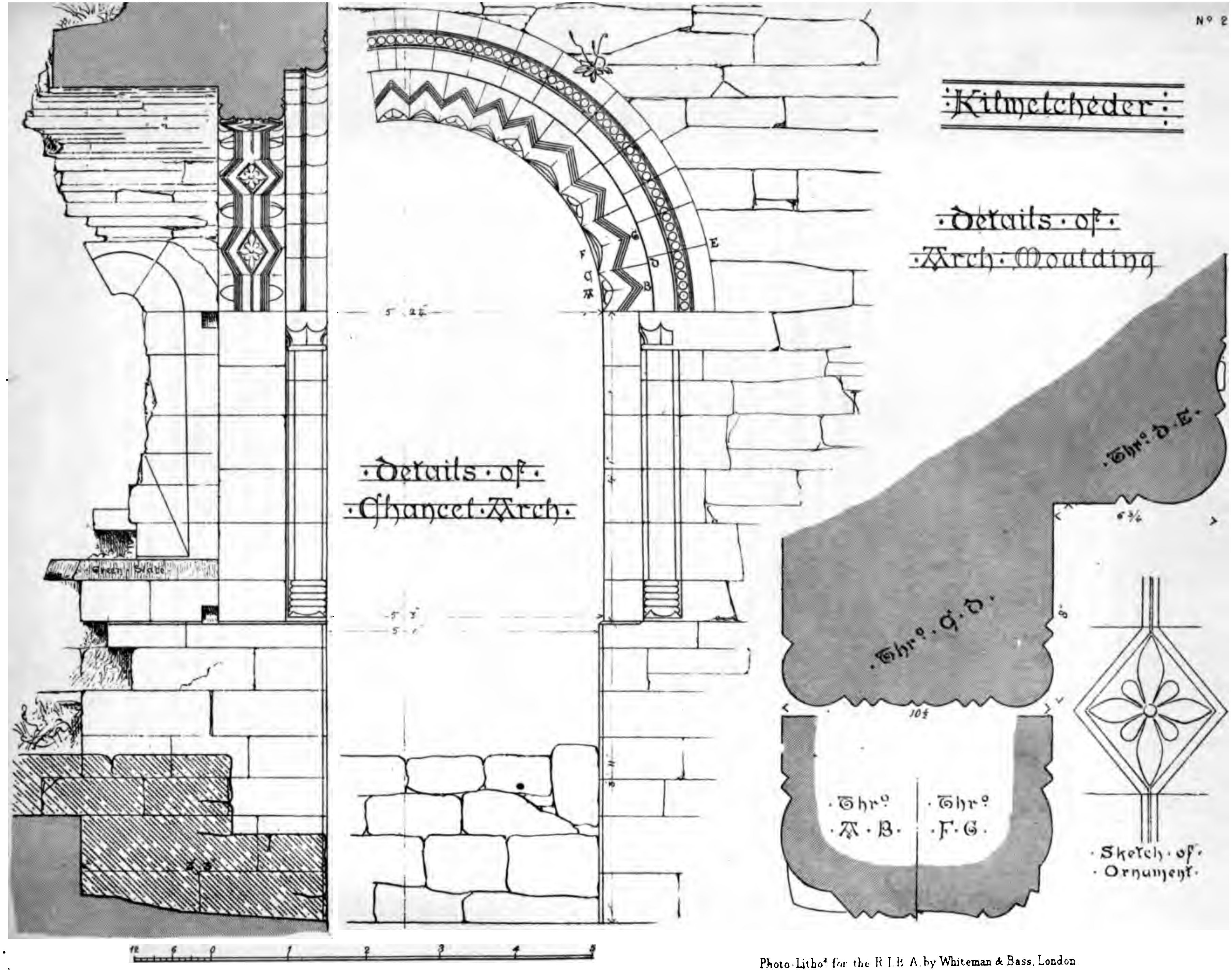


Photo-Litho.d for the R.I.B.A. by Whiteman & Bass, London

The nave was lighted by two small windows, of scarcely a superficial foot in area, but splayed widely inside to make the most of the little light that entered. There does not appear to have been any preparation made either for glazing or for shutters, and the jambs are sloping both inside and outside. Considerable interest is given to the interior by a range of half round shafts, that divide the side walls into panels, of which the windows occupy the second bay from the east.

According to the original plan, which I had the good fortune to discover on my visit last year, the church was terminated to the east by a small altar recess of only 3 feet 3 inches deep, by the width of the archway—5 feet 1 inch. [See plan and section of chancel arch.] From constant interments the church has been filled up many feet above the original floor level, and especially towards the east. Excavation was commenced under the chancel arch, to get the original levels if possible. At a slight depth below the surface, two steps were discovered that at first sight appeared to be what was sought; but on examination they proved to be a recent work, and were therefore discarded. On removing them at a depth of 3 feet 11 inches below the offset from which the pilasters spring, a solid flay was found, built in under the piers, and evidently the original floor of this portion of the church, and standing about 8 inches above the level of the west door. Two courses of the ancient east wall remain, bonding into the piers, and from the arrangement of the stone joints there can be no doubt that it once existed as high as the offset before mentioned, from which it may either have gone directly to the ceiling on the same plane; or the wall may have receded to the east sufficiently to form an altar at this level, if such a feature was customary in the Irish church of that period. The exterior face of the wall and consequent depth of the altar is altogether conjectural, for some graves interfered so much that they prevented even a search being made for it.

Let me correct a mistake that has been fallen into by Mr. Keane * and others, in miscalling "windows" what are in reality a pair of arched niches, of which one jamb remains inside each pilaster. Windows they could not possibly have been, as they are constructed in the "thickness" of the wall. They are portions of the original scheme of decoration—an arcade; on the same principle that square panels were used in the nave. The chamber was ceiled by a barrel vault, and most likely was finished externally with a simple gable.

The chancel arch is moulded with a large staff, and surrounded by a very charming little ornament, formed by a series of round discs, relieved on a slightly hollow ground. It is very sharply cut, and wonderfully effective, when we consider that the maximum sinking is less than three-eighths of an inch. A pair of simple pilasters, set back a few inches from the face, carry a highly enriched member, almost identical with the inner order of the west door of Ardfert Cathedral. [See detail.] The round moulding is most judiciously placed, where it receives a decided contrast on both sides, making its boldness look more bold, and in its turn conferring delicacy on the ornament: for we see where it has been exclusively employed in modern works, that it falls flat and uninteresting on the eye, not from any inherent defect, but from want of the relief that contrast always gives.

When the present church was added, the east wall of the former termination was removed, but the side walls were allowed to stand, the new part fitting closely over the old like the lid of a box. The east window is quite distinct in its style of treatment from the nave windows, being so much higher in proportion to its width, moulded on the exterior, and constructed with parallel jambs. The peculiar lozenge-formed cross that is now lying broken in the church was blown from the west gable some years' ago. Another still exists on the east gable of nave, but smaller in size.

TEMPLE NA HOE ARDFERT is planned in precisely the same way as the original building of Kilmelcheder, but it is nearly double the size, and probably a little later in date. The altar recess has disappeared, though not removed for the purpose of making an addition, as was the case in the other church. The chancel arch is treated in two "orders," and pilasters carrying a third "member" formerly existed, but now altogether lost. There are no angle shafts, but an enriched abacus marks the spring of the arch. The nave was lighted by four small windows, of which one remains on the south side, very much weathered on the exterior, but perfect inside. The jambs of the interior are moulded, and surrounded by a very elaborate band of ornament [see plate], consisting of a series of figures contained in square panels, every one of which is of different design, and all most elegantly composed. The doorway is unusually simple, with no attempt at ornament, except on the label moulding. The jambs incline, and the head is arched, and without a tympanum. The treatment of the quoins is worthy of notice, with bold projecting angle, shafts, and caps, of which three remain; they are all of different design, and very original.

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* 'Temple and Towers,' p. 256 and 419.

The uniformity of these Primitive Churches in plan is remarkable; the circular or cruciform arrangement is, I believe, entirely unknown; the rectangle with sometimes a small recess to the east, was alone employed. And it is by no means improbable that this simplicity was less the result of poverty or ignorance, than of veneration for some model given by the first teachers of Christianity; and that the use of several small churches, on one site, was a matter of custom, and not due to the incompetence of the people to have erected one large building, if they thought fit.

Examining into the principles that regulate the art treatment of these works, one of the most prominent is the part construction plays in the arrangement of the detail. I ask, should the supremacy of man boldly assert itself independent of stone joints, designing mouldings without reference to the number of stones required to form the work; or should we not rather proceed on the sound rational principle, so thoroughly carried out in these examples, that as a building is an assemblage of separate stones, yielding to each other mutual support, that this individuality should be sustained by our artistic treatment of the detail, giving to each stone such form as shall best distinguish it from its neighbour. In plain language, which should we value the more, the architecture that ignores stone joints, or that emphasizes them. This particular form of ornament, of course is a characteristic feature of the Norman of England and France, as well as of these buildings. But I am now about to mention one or two matters that I believe are peculiarities.

Sloping, or inclining jambs are universally employed in both window and door openings when single. But in cases like the cathedral door, where there are several contiguous arches, sloping jambs would be manifestly impossible; and therefore we must not look for them. This feature, invariable in the ancient buildings, is even to be found occasionally in later works; for example, the thirteenth-century windows in the nave of Christ Church, Dublin.*

Another peculiarity, that hitherto, as far as I am aware, has escaped attention, is in the method of forming the arch; the largest stones are placed at the springing, from which they diminish in size, with nearly perfect regularity, until the "voussoirs" at the crown become even less than half the thickness of the others. You naturally ask, what effect does this produce. Well, it tends to accumulate interest to the highest point of arch; and, when viewed in connection with the sloping jambs, it carries the eye up, and takes away the depressed appearance, so often inseparable from a round arch.

There is altogether so much suggestiveness in these works, that I cannot but recommend them to the study of the architects of the round-arched style of the future; of which we sometimes hear so much and see so little.

THE CATHEDRAL OF ST. BRANDON ARDFERT, is a very fair example of the general character of

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* 'Gentleman's Magazine,' Jan. 1864, page 13.

· Detail · of · Moulding · & · Ornamental · Band · to · Window ·

Templenahoe + Ardfert

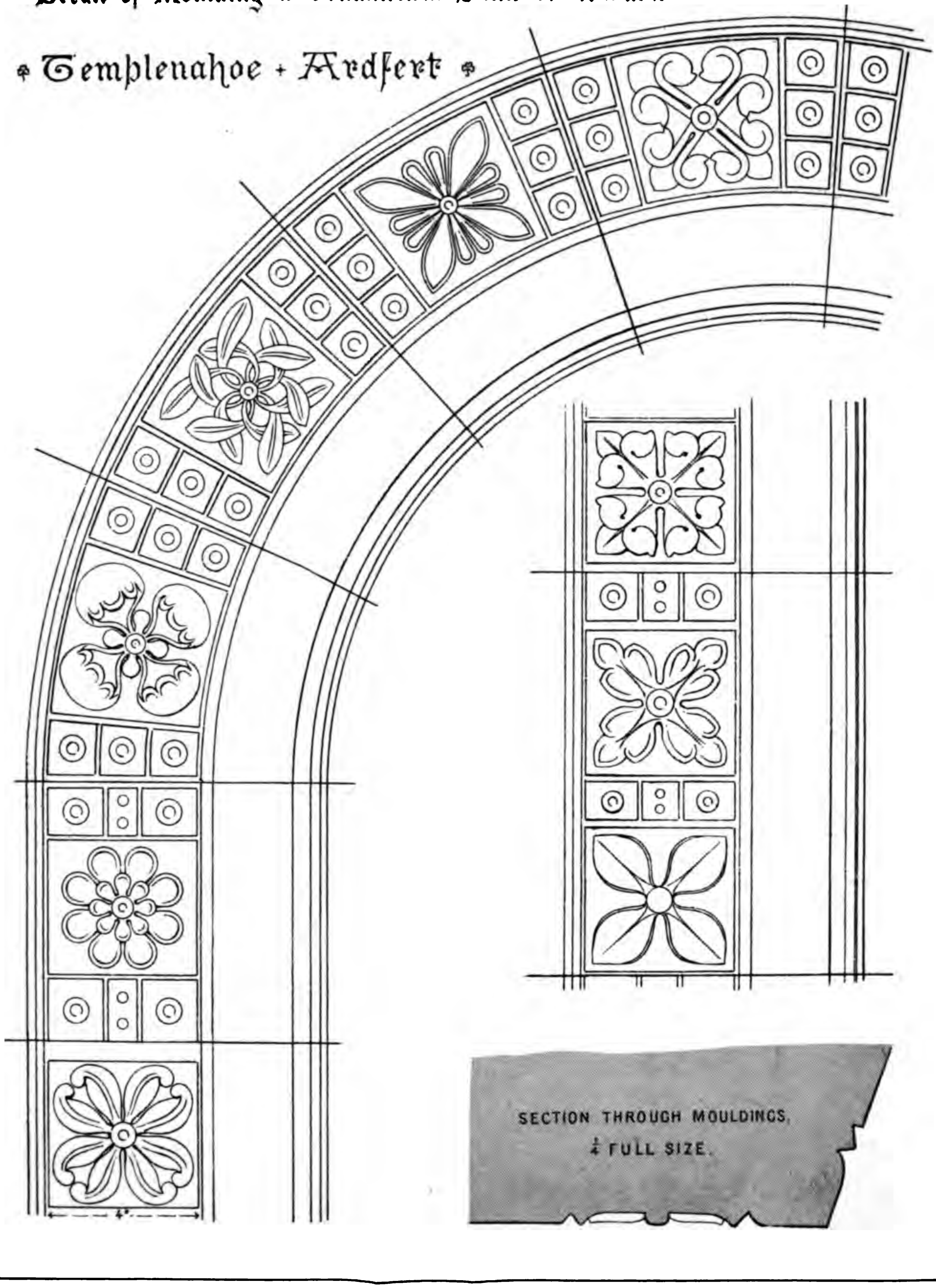


Photo-Lithoᵈ for the R I.B.A. by Whiteman & Bass, London.

Anglo-Irish building—the second great division of Irish architecture. The precise date of its erection I have not been able to discover; but that it is a work of the thirteenth century is evident, and fully sustained by comparison with an adjacent Franciscan Friary Church, that was founded by Thomas Fitzmaurice, the First Baron of Kerry, in the year 1253. The cathedral incorporates into its structure two fragments of more ancient buildings. A portion of the north wall consists of some very remarkable masonry, formed with huge blocks of limestone. And the west door and arcade is also ancient work, being the only portion that remains of the original cathedral; and from its great beauty, causing us to regret the destruction of the rest. This doorway evidently stands on its original foundation, otherwise it would not have been so curiously placed as it is, in the extreme north of the west front.

The original plan of the building was a simple rectangle, 137 feet long by only 25 feet in width; and an aisle on the south-west, opening by three arches into the nave. In later times a large transept was added on the south side; and a chantry and mortuary chapel, with a short aisle, was built on the north side of choir; and, probably at the same time, that heavy double embattlement, a peculiarly Irish feature, was put up for the purpose of defence.

The nave of this Cathedral, like the ancient churches, is remarkable for the small quantity of light that was considered sufficient. There are but two small windows in the whole of the north side, and previous to the addition there were three of the same size on the south side, but two of them were closed up at that time. There may have been a few simple lights in the south aisle, but the west gable was entirely without a window of any kind; so that this end of the building must have been very dark. However, we have no cause to complain of want of light in the choir, for on the south side there is a range of nine lancet windows, and there are three grand lights in the east end, the centre one being nearly 30 feet high. And the effect of light, and no doubt of colour also, being so much enhanced by the darkness of the nave, must have been very fine.

The architectural treatment of the choir is extremely good, both in general lines and in detail, the latter is especially bold and simple. The foliage carving of caps is also very original in character. It was enclosed from the nave by a wooden loft or screen, but not so high as to interfere with the view of the great windows; for a pair of corbels remain on each side marking its position. This part of the building, so interesting to an architect, I am sorry to say is in a most dangerous condition; the heavy embattlement placed upon walls, structurally weak, has done great injury. And now the south-east corner is entirely upheld by a noble square buttress, without which the choir would have fallen long ago.

A feature exists in the thirteenth-century work, to which no one has been able to give a satisfactory solution. You will pardon my mentioning anything so trivial, but it is very curious. I refer to the number of carefully built holes that exist, of about 9 or 10 inches square, and going right through the walls. If they were "putlog-holes," why were they not closed up, or if they had been, why are they now all open?

This building is an average example of a class of structures, evident off-shoot of the English school of building, but very much inferior to the noble works of the parent stem, produced about this period. And the same interest does not attach itself to these as to the other class of Irish work, so much more ancient, and with some claims to be considered a distinct school of art in themselves. You will therefore forgive my somewhat hasty description, and permit me to conclude, with what I fear I need—an apology for the incompetent manner in which an important subject has been treated. I trust you will regard this paper, not as a definitive essay, but as the opening of a debate, and that some of the learned gentlemen, who have heard me so far, may advance where I cannot tread, comparing Continental buildings with the Irish style, and criticising—not my work, but the churches themselves.

Professor **Kerr**, Fellow.—I have very great pleasure in proposing a vote of thanks to Mr. Arthur Hill for his paper. My own attention has been chiefly attracted by the descriptions given of the peculiar structure of the arches in Ardfert Abbey. It is the first time in matters of this kind that I have seen anything like what I take to be a notion of the equilibration of an arch introduced in architectural form. I look upon the peculiarity of these arches to be, not as Mr. Hill supposes, merely an effort to produce an artistic effect of lightness at the crown, but rather an effort, by rule of thumb no doubt, to produce (if I may suggest so on the spur of the moment), that which used to be the great problem, for instance, in stone bridges, namely, an equilibrated arch, which should theoretically retain its form without any support other than that derived from its own forces. At any rate, just as the equilibrated circular arch increases in depth of voussoir from crown to springing, so in this case, although I do not mean to say that mediæval builders understood the scientific principle, I think the gradation of size in the arch stones may be fairly looked at as suggesting some sort of rude idea in the same direction.

Mr. W. **Fogerty**.—I feel bound to record my sense of the accuracy with which Mr. Hill has brought this subject under our notice, and I can fully endorse the closing observation of the paper—that Irish ecclesiology remains to be investigated; but when I have tried to induce my English friends to visit us, I have been told by them, "after going a hundred miles we only get to a round tower." I am afraid the idea has prevailed, that when a person enters upon the study of ecclesiology, it is done with the practical end to gain some materials to be worked into modern practice, and that may be case; but still there are certain advantages connected with the study of Irish architecture which ought not to be forgotten; one is, that the stone principally used is a hard blueish limestone, which is almost as perfect and as sharp as when it was first executed. Mr. Hill has done good service, I think, in classifying the buildings in Ireland—first, there come those which were erected anterior to the English invasion, or rather annexation, and then those subsequent to it. The buildings previous to the Anglo-Norman annexation bear a close relation to buildings of the same date in England, and some of those on the western shores of France and Brittany, while the ornamentation has much that is identical with the Romanesque Churches of the Rhine. Any person who looks at the old Irish crosses, and the ability displayed in their design and execution, will hardly conceive that it was impossible that the men who designed them were not also capable of erecting stone churches, and several of them must have been erected in the eighth or ninth centuries. The buildings subsequent to the Anglo-Norman annexation do not coincide so much with those on this side of the channel; there are marked differences in them, and I think the services of the Irish churches considered, the ecclesiastics of high rank who ruled there were anxious to impart a continental feature to their buildings, in order to keep up some sort of nationality. No one can look at these buildings without being struck with the difference between them and those in England. There are the twisted columns which one sees in Spain in the cloisters at Verona, with which we find little corresponding in England, and the Church of the Holy Cross at Thurles in Tipperary, is very much like that of St. John Lateran at Rome. I hope Mr. Hill will not be content with illustrating two or three of these buildings, but that he will take advantage of his position in the county of Munster to investigate some of the interesting ruins that are to be met with there.

Mr. W. **White**, Fellow.—I do not think any one has seconded the vote of thanks, and I shall be happy to do so. I have myself travelled through a great deal of the south and west of Ireland; I met there with a great deal that interested me very much. In fact I had began to look up a few notes to lay before the Institute, but other things put them out of the way. I may find an opportunity of doing so on a future occasion, if it should be considered of sufficient interest. If I understand Mr. Hill aright the peculiarity of the arch he has referred to is, not that the intrados and extrados are not parallel, but simply that the size of the stones increases towards the springing; of course in these stones first fixed they have much less liability to tilt over or become displaced, and it was natural to put the larger stones where they could be most readily fixed; but I understand Mr. Hill to say he was not aware of any such instance as that in English architecture. I think, however, if he looks at many of the pointed arcades of English churches he will find that the stones do decrease in size from the spring, in the same manner as in the case he brings before us. In pointed arches this feature is especially noticeable. Also I think he will find the same thing in many of the Norman churches, though not to such an extent perhaps as in some of the Irish churches. Perhaps Mr. Hill will be good enough to give us a little more explanation with regard to the small chancel he has pointed out, which I think he calls a restoration. I thought it was the ancient apse. I did not gather the authority for that. I have asked for the authority before saying a word about it, because Mr. Hill referred to the Greek church, and that plan seemed so evidently following, in one respect, that of the Greek church. At the same time it does not seem to follow the arrangement as to the prothesis of the third and fourth centuries of the Greek church. With regard to the plan of Ardfert, which must have been always a noble church, perhaps Mr. Hill will be good enough to explain what that old piece of wall is, in the centre of the north wall, because it seems to be linted as an ancient nave. As far as I can see, the great west doorway was the centre of the earlier church, and that part must have been an opening, subsequently walled up, the greater portion of the church being of a later date, the *centre* of the building being changed from that of the old doorway to it present site.

The PRESIDENT.—I am sure there will not be two opinions upon the resolution of thanks which has been proposed. Though born in Ireland I must plead guilty to having little knowledge of Irish antiquities, but from what we have heard to-night, the subject is so full of interest, that I can easily imagine it to be a most fascinating study.

The vote of thanks to Mr. Hill was unanimously accorded.

Mr. ARTHUR HILL, having acknowledged the compliment paid him, said—The authority for the little chancel is to be seen in the foundation of its east wall, of which two courses still remain. That it was an *altar* recess is but a conjecture, and I cannot but feel Mr. White's suggestion to be more likely, namely, that it was used to contain the seat of the priest. As to the masonry in the north wall, its position, almost in the axis of the original cathedral, precludes the idea of its being of that period, and as it is entirely surrounded by thirteenth century work, it evidently cannot be of that date, and is therefore intermediate. I hope this subject, imperfectly treated though it has been by me, will at least give rise to some interest in Irish structures, and induce some of my hearers to try if anything more than a "round tower" is to be seen in the country.

ON THE ADMEASUREMENT OF SKY IN CASES OF LIGHT.

By E. WYNDHAM TARN, M.A., Associate.

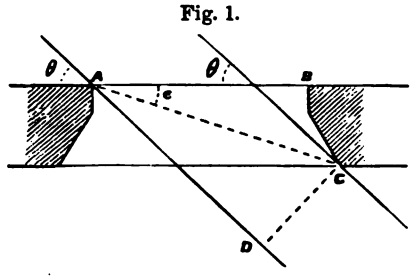
AT a meeting of the Institute on the 30th of April, 1866, a paper was read by Professor Kerr, entitled "Remarks on the Evidence of Architects concerning the Obstruction of Ancient Lights, and on the Practice of Proof by Measurement;" in which the Professor explained his system of measuring the loss of light which would be sustained by a window in consequence of the erection of a lofty building opposite thereto. In this system the sky-surface seen from an unobstructed window is supposed to be represented by an equally-illuminated quarter-sphere, which is divided by circles of latitude and longitude into a number of segments; and the value of the light from each segment as seen from the window (supposed to be placed at the centre of the quarter-sphere) is found by calculation, and is figured upon the segment. When it is required to find how much light is cut off from the window by any proposed building; its vertical and horizontal distances therefrom, together with the angle which a line drawn from it to the window makes with the plane of the window, enable us to find how much of the sky-surface is obscured, and to calculate by simple addition its value as compared with the whole unobscured sky-surface.

In June and July, 1869, Mr. Homersham Cox published in 'The Architect,' and afterwards in a separate volume, what he called "The Law and Science of Ancient Lights," in which he alluded to Professor Kerr's paper in the following terms:—"Mr. Kerr wholly neglects the fundamental principle of diminution of intrinsic illuminating effect due to obliquity of rays, and his calculations are utterly at variance with the principles both of optics and geometry, and are not in any degree approximations to correct results."

In consequence of these remarks of Mr. Cox, Professor Kerr requested me to examine into the subject from a purely mathematical point of view; and the results of my investigations I now propose to lay before the Institute as briefly as possible.

To determine the relative illuminating power of various portions of sky-surface with respect to a vertical window.

Fig. 1.

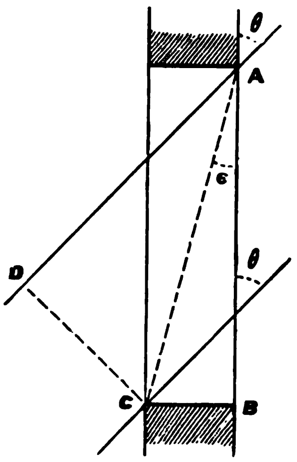


1. Let Fig. 1 represent the plan of a window into which light from the sky-surface is entering in the direction of A D, making with the wall the horizontal angle θ. It is evident that as the angle θ varies the amount of light which enters also varies, and is in fact proportional to the width D C, or to the *sine* of the angle D A C, or of the angle $\theta-\epsilon$; ϵ being the fixed angle B A C, which for ordinary windows is about 10°. Then, if we call $d\theta$ the differential or indefinitely small increment of θ, the value of light from any portion of sky at a horizontal angle between the limits α and β is proportional to

$$\int_{\alpha}^{\beta} \sin\overline{\theta-\epsilon}\,.\,d\theta = \cos\overline{\alpha-\epsilon} - \overline{\beta-\epsilon}$$

the angles α and β being measured from the extreme right or extreme left towards the meridian.

Fig. 2.



2. Next, let Fig. 2 represent a vertical section of the window, A D the direction of light making the angle θ with the vertical. Then, as before, the value of the light which enters is proportional to D C, or to sin $\overline{\theta - \epsilon}$; and in this case we may take ϵ as 5° for an average window. The same formula therefore applies as was obtained for the horizontal rays, except that $\epsilon = 5^\circ$ instead of $\epsilon = 10^\circ$.

3. Let us now divide the quarter-sphere of sky-surface by lines of latitude and longitude at distances apart of 5°, and calculate the several values of cos $\overline{\alpha - \epsilon}$ — cos $\overline{\beta - \epsilon}$ for every 5° both vertical and horizontal; giving ϵ the above-named values. The relative numbers for every 5° horizontal, measured from meridian to 80°, are

85, 83, 81, 77, 74, 69, 64, 60, 53, 47, 40, 33, 26, 19, 11, 4. - - - - (A)

And for every 5° vertical measured from horizon to 80° of altitude, the numbers are

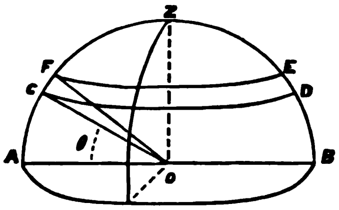
86½, 85, 83, 81, 77, 74, 69, 64, 60, 53, 47, 40, 33, 26, 19, 11. - - - - (B)

We must now multiply each of the set (A) by each of the set (B), so as to obtain the relative value of light from equal areas of sky-surface according to the angle which its direction makes with the plane of the window.

4. We have next to consider the relative values of the sky-surface itself independently of the angle at which the light therefrom is received at the window. If we divide the sphere into zones of equal angular width, their relative areas will be unequal; and by geometry we know that the length of any small circle of the sphere, C D (Fig. 3) is the length of a great circle A B multiplied by the cosine of the angle of altitude; that is,

$$C D = A B. \cos\theta.$$

Fig. 3.



Now, take a very small zone, C D E F, which subtends at O the differential angle $d\theta$; then, the relative area of any zone between the angles λ and μ will be represented by

$$\int_\lambda^\mu \cos\theta \,.\, d\theta = \sin\mu - \sin\lambda$$

in which the angles λ and μ are measured from the horizon A B towards the zenith (Z). Calculating the value of this formula for every 5° of vertical angle we have the series of numbers,

87, 86½, 85, 83, 81, 77, 74, 69, 64, 60, 53, 47, 40, 33, 26, 19. - - - - (C)

The numbers obtained as the products of the series (A) into the series (B) must be multiplied by the numbers in series (C) according to the several zones. The Table 1 is formed in this manner, the numbers being reduced to their lowest proportional amount.

5. In calculating Table 1, we have supposed that the value of light emitted from any portion of sky-surface is exactly proportional to the area of that portion, in whatever part of the sky it is situated. Let us now suppose that the illuminating power of *equal areas* of sky-surface increases from the horizon towards the zenith as the *sine* of the angle of altitude. Then the illuminating power of any zone is expressed by

$$\int_{\lambda}^{\mu} \cos\theta \,.\, \sin\theta \,.\, d\theta = \tfrac{1}{2}\,(\sin^2\mu - \sin^2\lambda)$$

Calculating this formula for every zone of 5° from the horizon up to 80° of altitude, we obtain the numbers,

8, 23, 37, 50, 62, 71, 79, 84, 87, 87, 84, 79, 71, 62, 50, 37. - - - - (D)

The numbers obtained as the products of the series (A) into the series (B) must be multiplied by the numbers in series (D) according to the several zones. In this manner the Table 2 is obtained.

6. The object of forming these Tables is to enable us to calculate the relative value of the light abstracted by the erection of any new building so as to obscure any portion of the light previously accessible to a given window. For, by measuring the vertical and horizontal distance of such object from the window, and also the angle which a line therefrom makes with the plane of the window, we can at once determine its position on either Table, and calculate the number and value of the segments of zones which are obscured thereby.

7. Mr. Homersham Cox has published a method of investigating the relative values of sky-surface and the loss of light occasioned by any obstacle. The conclusion at which he arrives amounts to this, that *whatever portion* of sky surface is obscured, the loss of light is exactly proportional to the *area* of that *portion;* or, in other words, that the value of the light from *any* equal areas of sky-surface is exactly the same no matter at what angle it falls on a window. Hence it appears that Mr. Cox himself "wholly neglects the fundamental principle of diminution of intrinsic illuminating effect due to obliquity of rays." Any mathematician can see this at once from the methods which he adopts and the formulæ which he obtains; for it is well known that the *areas* of the several zones into which the quarter-sphere is divided by "small circles" at angles of altitude, say, α and β, are proportional to the values of the formula

$$\sin\beta - \sin\alpha$$

Now they are the several values of this very formula that Mr. Cox has tabulated and called the "relative illuminating effects of every 10° of sky." Also in measuring "lateral obstructions" he states that "the quantity of light lost is directly proportional to the angular altitude of the obstacle above the aperture." Now it will be seen, by reference to his diagram, that this obstacle cuts a spherical triangle out of the quarter-sphere, which triangle has 2 right-angles, consequently its *area* is proportional to the "angular altitude," that being the angle called in spherical trigonometry the *spherical excess.* Mr. Cox's conclusions thus appear to contradict the very principles on which he professes to ground his investigations.

TABLE 1.—*Relative values of light entering a vertical window from different parts of sky-surface, on the hypothesis of an* EQUAL *diffusion of light.*

Value of each Zone. 80	0° 5°	5° 10°	10° 15°	15° 20°	20° 25°	25° 30°	30° 35°	35° 40°	40° 45°	45° 50°	50° 55°	55° 60°	60° 65°	65° 70°	70° 75°	75° 80°
206 75	21	21	20	19	18½	17	16	15	13	12	10	8	6½	5	3	1
469 70	48	47	46	44	42	39	36	34	30	27	23	19	15	11	6	2
826 65	85	83	81	77	74	69	64	60	53	47	40	33	26	19	11	4
1258 60	130	127	124	115	110	106	98	92	81	72	61	50	40	29	17	6
1775 55	M 183	178	174	165	158	148	138	129	114	101	86	71	56	41	24	9
2348 50	E 242	235	229	218	209	195	181	170	150	133	113	93	74	54	31	11
2989 45	R 308	300	293	278	268	249	231	217	193	170	145	119	94	69	40	15
3604 40	I 372	363	354	337	324	302	280	262	232	206	175	144	114	83	48	18
4177 35	D 430	420	410	389	374	349	324	304	268	238	202	167	130	96	56	20
4730 30	I 492	480	468	434	416	387	358	347	307	272	231	191	150	110	64	23
5351 25	A 551	538	525	499	480	447	415	388	343	304	259	214	168	123	71	26
5845 20	N 591	577	563	546	525	489	454	425	376	333	284	234	207	135	78	28
6299 15	648	633	618	587	564	526	488	458	404	358	305	252	198	145	84	31
6641 10	673	669	652	620	596	556	516	483	427	379	322	266	209	153	88	32
6916 5	712	695	678	645	620	578	536	502	444	394	335	276	217	159	92	33
7074 0	727	710	693	660	634	591	548	514	454	403	343	283	223	163	94	34
					H	O	R	I	Z	O	N					
60508 =	total value of half sky-surface.															

E. WYNDHAM TARN, M.A.

TABLE 2.—*Relative values of light entering a vertical window from different parts of sky-surface, on the hypothesis of a* VARIABLE *diffusion of light.*

Value of each Zone. $_{80}$	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70	75° 80°
206 $_{75}$	21	21	20	19	18½	17	16	15	13	12	10	8	6½	5	3	1
492 $_{70}$	51	49	48	46	44	41	38	36	31½	28	24	20	15½	11	6½	2½
826 $_{65}$	85	83	81	77	74	69	64	60	53	47	40	33	26	19	11	4
1214 $_{60}$	125	122	119	113	109	101	94	88	78	69	59	49	38	28	16	6
1628 $_{55}$	M 167	164	160	152	146	136	126	118	104	93	79	65	51	37	22	8
2034 $_{50}$	E 210	205	200	190	183	170	158	142	131	116	99	82	64	47	27	10
2375 $_{45}$	R 244	239	233	221	213	198	184	172	152	135	115	95	75	55	32	12
2697 $_{40}$	I 278	271	264	251	242	225	209	195	173	154	131	108	85	62	36	13
2775 $_{35}$	D 286	279	272	259	249	232	215	202	177	158	134	111	87	64	37	13½
2814 $_{30}$	I 290	283	276	262	252	235	218	204	180	160	137	112	89	65	37½	14
2711 $_{25}$	A 279	272	266	253	245	226	210	197	174	154	131	108	85	62	36	13
2469 $_{20}$	N 254	248	242	230	221	206	191	179	158	143	120	99	77½	55½	33	12
2091 $_{15}$	215	210	205	195	187	175	162	152	134	119	101	84	66	48	28	10½
1587 $_{10°}$	163	160	156	148	142	133	123	115	102	90	77	63	50	36½	21	7½
1007 $_{5°}$	104	101	99	94	90	84	78	73	65	57	49	40	32	23	13	5
362 $_{0°}$	37	36	35	34	32	30	28	27	23	21	18	15	11	8	5	2
					H	O	R	I	Z	O	N					
27288 =	total value of half sky-surface.															

E. WYNDHAM TARN, M.A.

The following Tables (3 and 4) are formed in the same manner as Tables 1 and 2; the only difference being that in these the quarter-sphere is divided into segments measuring 10° each way, whilst in Tables 1 and 2 it is divided into segments measuring 5° each way.

These tables will be found sufficiently accurate for ordinary calculations, but where great nicety is required, the Tables 1 and 2 should be employed.

TABLE 3.—*Illuminating power of sky-surface uniform throughout.*

Value of each Zone.											
	80		0	0	0	0	0	0	0	0	0
54·4	70	M	11	10·4	9·4	8	6·6	5	3	1	0
174	60	E	35·5	33·3	30	26	21	15·4	9·6	3·2	0
335·6	50	R	68·4	64	58	50	41	29·5	18·5	6·2	0
544	40	I	111	104	94	81	66	48	30	10	0
748·1	30	D	153	143	130	111·5	91	66	39·6	14	0
944	20	I	195	180	163	140	114	83	52	17	0
1088	10	A	222	208	188	162	132	96	60	20	0
1177	0	N	240 H	225 O	204 R	175 I	143 Z	104 O	65 N	21	0
5065 Total.			10	20	30	40	50	60	70	80	

TABLE 4.—*Illuminating power of sky-surface varies as the* SINE *of the altitude.*

Value of each Zone.											
	80		0	0	0	0	0	0	0	0	0
54·4	70	M	11	10·4	9·4	8	6·6	5	3	1	0
157·5	60	E	32·6	30·5	25	24	19·4	14	9	3	0
273·3	50	R	56	52	47	41	33·3	24	15	5	0
387·9	40	I	79	74	67	58	47	34·4	21·5	7	0
431	30	D	88	82	75	64	52	38	24	8	0
397·3	20	I	81	76	69	59	48	35	22	7·3	0
294·6	10	A	60	56	51	44	36	26	16·3	5·3	0
104	0	N	21 H	20 O	18 R	15 I	13 Z	9 O	6 N	2	0
2100 Total.			10	20	30	40	50	60	70	80	

The **President**.—I am sure we shall all feel exceedingly grateful to Mr. Tarn for the research, ability and labour he has bestowed upon his paper. Happily, it is in print, and we shall be able to study at our leisure those abstract and careful calculations which he has brought before us. I will now invite any observations that gentlemen have to make upon the paper.

Professor **Kerr**, Fellow.—Although it is impossible for any of us at present to follow these calculations in all their detail, it is nevertheless quite evident that the subject has been treated by one who knows what he is talking about. For my own interest in the matter I may say that, feeling somewhat anxious about a certain contradiction respecting the mode of calculation which I had some years ago introduced (by way of a remedy for the previous confusion of opinion upon a point which practically is of great importance to architects), I ventured to ask Mr. Tarn, who is an accomplished mathematician, to go into the question carefully. He has done so with even greater elaboration of minutiæ than I expected. He has produced formulæ and tables so elaborate, indeed, that we may find it difficult to apply them; although, of course, to prove the accuracy of their results nothing can be too elaborate. I am happy to say the conclusions of Mr. Tarn are to be taken to have fully verified the less elaborate table upon which I had been working, and which I shall be glad, for the information of members, to append to this part of our Transactions. I must explain that it is not the same table published in my little Treatise on Ancient Lights, but an amended form reduced to a square of 10 degrees, which I have used for the last three or four years, and which, I thought, I had made public long ago. Mr. Tarn thus far confirms both my theory and practice; but he also points out that there is another table founded upon scientific theory which bears upon a certain graduated value of light vertically, increasing upwards towards the zenith. That is a principle which practically I have not left unconsidered, but I do not understand its force. However, I believe I may say that, practically speaking, it is found to make little difference in the ultimate results of actual cases whether the one table or the other is used, although there is an appearance of considerable difference between them. I am, however, willing to admit that in some instances Mr. Tarn's second table may have special application in preference to his first, the one which corresponds with mine. I have here to produce a glass model of a quarter sphere of the sky (a portion of a common glass shade) outside an opening which represents a window. The quarter-sphere is divided by parallels of latitude and longitude; and by the tables now before us each section has a demonstrated value. Now any gentleman taking this model in his hand and looking through the window aperture will see represented on the glass a certain prospect of old buildings tinted black, and a certain other sky line of new buildings tinted red: that is he can compare at a glance the old state of things and the new, and the conclusion so far is irresistible. It is then a matter of simple calculation to determine from the tables of value of these squares what is the exact proportion of the formerly exposed sky which is covered by the new building as represented. Or otherwise. We can represent on a drawing of plane projection what this represents on the sphere; we make the same arithmetical calculation and arrive at the same results, which, I beg leave to say, after many years' experience, it is now proved to be perfectly idle to dispute.

Mr. W. **White**, Fellow.—There is one point in connection with this question in which it strikes me the views I have held are correct; but I wish to be corrected if I am wrong. I would ask Mr. Tarn whether he has found the calculations I made subsequent to Professor Kerr's paper nearer to his own than those of Professor Kerr.* And there is another point with regard to the illuminative power of sky surface. That (*illustrating on the board*) being the zone of atmosphere, there can be no doubt that in our climate, whatever it may be at the Equator—and there probably it makes no difference — the light is greatly diminished by its having to pass through a greater amount of atmosphere towards the horizon. That is a point apart from the illuminating power of the sun which makes a greater difference in the light.

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* See note at page 169.

Mr. **PHÉNÉ SPIERS**, Associate.—Perhaps I may be allowed to state that, having drawn a comparison of the tables of Mr. Tarn with those of Professor Kerr, I have found the results to be nearly the same, the difference being so slight as to be lost sight of altogether in the parts of measurement one is obliged to make in these questions; and also that in calculating the relative loss of sky surface by means of Mr. Tarn's tables and Professor Kerr's I find great difficulty with the former in consequence of their large number: I think it would be advisable to reduce them to the same number as Professor Kerr's, so as to apply them practically to the measurement of sky surface. As to the diminution of light and the greater power of light as it approaches the zenith, I have made calculations with the other tables prepared by Mr. Tarn, and found it came almost precisely the same, the fact being that the small area of the zenith was so slight, the difference of calculation was not worth consideration. This would apply, however, only to town cases. Mr. Tarn also had made some experiments to see if there was a difference in the real value of light at the horizon and the zenith, and as far as I could judge, looking through tubes, there was a noted difference in the quantity of light when the latter was vertical and when it was horizontal. That may have arisen from the peculiarity of the atmosphere of London, and is not to be taken as an example applicable to the country; but these cases of light and air occur more often in London than elsewhere, and it is as well to know it makes no difference which principle is taken.

Professor **KERR**.—I would ask whether Mr. Tarn considers this increasing value of the light towards the zenith to be due to what Mr. White suggests as to the loss of light from the horizontality of the rays. [Mr. **TARN**.—I think not.]

Mr. **JENNINGS**.—I have not gone into these matters as questions of calculation, because all my experience has been on questions of fact in connection with light under the peculiar circumstances, which are very variable. I have no doubt these calculations are accurate and precise, but at present we are in this position:—There is a Bill now in Parliament which, amongst other things, professes to deal with the question of light. Whether it is to be the national mode of dealing with it, it is of importance to architects to consider. As far as I understand it, it will do away with all claim for light to any angle more than 45° in every direction. They propose, if you do not interfere with your neighbour's light, other than at that angle, you shall do so. It appears to me, in practice in London, 45° is a very fair angle for the purpose. I quite feel that light derived perpendicularly is immensely better than light derived lower down. I am not prepared to enter fully into the subject, as I have never had occasion to consider it except in the individual cases in which I have been engaged, where the light has been interfered with.

Mr. **SPIERS**.—How could you get light into a window with a perpendicular wall in front of it?

Mr. **JENNINGS**.—The light would come in at angles measured from the window to the sky in front and on the sides.

Professor **KERR**.—With regard to the new Building Act, unwilling, as I happen to be, to sign a certain petition against it on other grounds, I certainly must do so on the ground of that proposed rule of 45°, which Mr. Jennings has just described.* I will show you how such a rule would operate, and has too often operated in the judgments pronounced by unscientific surveyors. Suppose a window has an unlimited exposure—first, the sky is to be covered vertically to the line of 45°, there may be no harm done. But secondly, the sky may be covered on the right-hand side up to the zenith to 45° laterally, and a good deal of harm may be done. Then, thirdly, the left-hand sky may be covered up to the zenith to 45°, and the absurdity of the idea is plain. Otherwise, suppose a window derives its light from sky already wholly covered along the front and further covered to 45° beyond the front—in all, 135° covered laterally and 45° alone exposed—this rule would, of course, allow the covering of the remaining 45°, and the total extinction of the light! However, let me explain to you what the rule of 45° really is. It has always been a general idea in London that houses ought not to be built of a height greater than the width of the street. Accordingly, builders have got into a way of so arranging windows, and so determining the size of them, as to agree, by instinct rather than calculation, with this universal notion. Well, given the street so wide and the houses so high, there is the angle of 45°, and the rule goes no further. But if you carry out the same rule sideways it is impossible to tell on what principle it can apply. Therefore I submit it would be a most fatal principle to propose to establish in any Act of Parliament. [Mr. JENNINGS.—But you would not get the angle of 45° at the sides.] I have known scores of surveyors make affidavits on the rule of 45° taken in any way whatever, and in all circumstances alike.

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* I find, on referring to the Bill, that the clause proposed has no further application than to give power to the Board of Works to bring forward an old frontage line within the limit of an angle of 45° vertically. [R. K.]

Mr. JENNINGS.—The new Building Act goes on the principle that you have a plane of 45° for your window jambs, and in elevation you must have 45° also; the practical effect of which is to give a circle of 45°.

Professor KERR.—That is different altogether from the advice offered by this Institute to the Board of Works, viz., that disputes should be prevented as far as possible, but not that any empirical rule like this should be laid down. We proposed the introduction of a clause into the Bill whereby these disputes as to light and air should, like those as about party-walls, be referred to competent surveyors for decision. This Institute never countenanced the monstrous proposition of an empirical rule of 45°.

Mr. SPIERS.—Mr. Jennings says light from the zenith is more powerful than that from the horizon, but the amount of sky surface is much smaller, and therefore, being smaller, is of less value.

Mr. JENNINGS.—The second 6 feet from the ground is more valuable than the 6 feet from the ground.

Mr. SPIERS.—If every one of these squares has a fixed value it does not matter where you take it.

Mr. JENNINGS.—You start with the thing clear—nothing obscured—and if I understand you, the 6 feet fence or wall interferes with more light if you make it 12 feet than if it were 6 feet high.

Professor KERR.—There are two principles set up by scientific enquirers; the first is, that, value for value, a unit of sky above and a unit of sky below give equal light; the other is, that, owing to something which I, for one, do not understand, the unit increases in value upwards from horizon to zenith. Therefore, when you say the sky, at some particular level, is of *no* value—

Mr. JENNINGS.—I say, practically, at that distance you do not take away the light of the window from the ground floor when you have got a garden wall in front.

Professor KERR.—I have no doubt what you mean may be practically correct. No practical damage can result below any given level, provided you have sufficient exposure above; but suppose the light at the top were obscured, as by a verandah, you cannot say that you would get no light from below. Practically, the sky towards the horizon is always covered. [Mr. SEDDON.—Does it make any difference where the sun is?] No. The supposition is adopted of an average dull English day; and then, as there is no sun seen, there is an equality of light all around, and then there is the obscuring of light through radiation. If you take this perfectly dull day you admit an equal reflection of light through the atmosphere from horizon to zenith. [Mr. TARN.—I do not find it so by experiment.] All depends upon the perfectly dull and cloudy condition of the atmosphere. In that case I must consider that we have an equally powerful reflection all over the sky-surface—and that is a fair average condition of things in this country as applying to those times of the year and those times of the day when the question of damage to lighting is really most important.

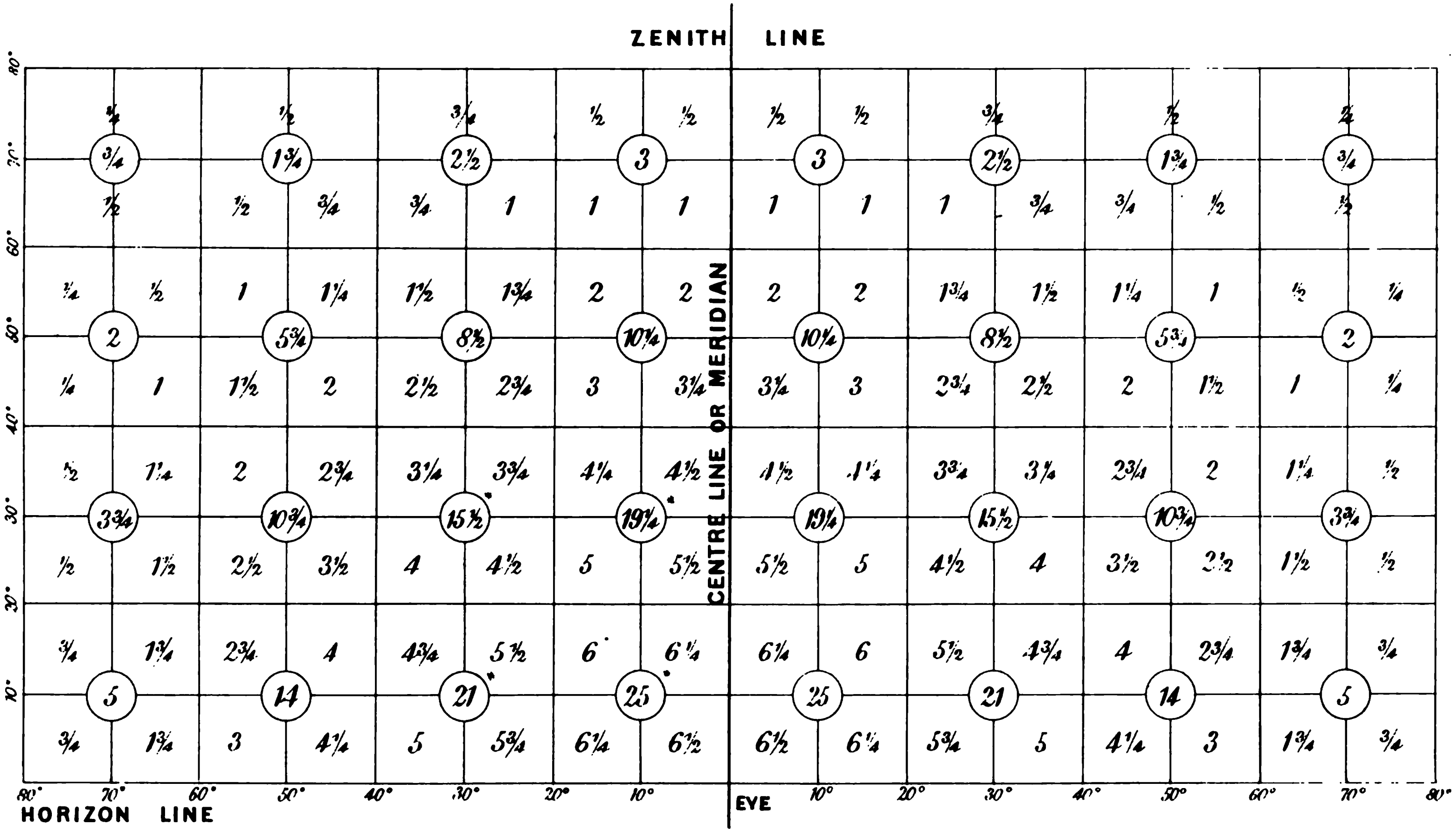
The discussion having been then brought to a close, a vote of thanks was unanimously passed to Mr. Tarn for his paper, after which the meeting adjourned.

NOTE.—Since reading the above paper, I have calculated the value of the several squares of 22½°, in order to compare the figures with those given by Mr. White in his paper read November 19, 1866. I find a considerable amount of divergence, as shown below. E. W. T.

Mr. White's Table.					*Mr. Tarn's Table.*			
·3	·7	·9	1		1	·8	·4	·1
1·9	4·4	5·5	6·2	MERIDIAN	10·4	8·0	4·7	·6
3·5	8·1	10·1	11·3		24·0	18·7	10·7	1·3
4·9	10·8	13·5	15·1		35·0	27·0	16·0	1·9

PROFESSOR KERR'S TABLE, Revised 1866.

(Corresponding to Mr. Tarn's Tables 1. & 3.)



¼		½		¾		½	½	½	½	¾		½		¼	
¾		1¾		2½		3		3		2½		1¾		¾	
½		½	¾	¾	1	1	1	1	1	1	¾	¾	½	½	
¼	½	1	1¼	1½	1¾	2	2	2	2	1¾	1½	1¼	1	½	¼
2		5¾		8½		10¼		10¼		8½		5¾		2	
¼	1	1½	2	2½	2¾	3	3¼	3¼	3	2¾	2½	2	1½	1	¼
½	1¼	2	2¾	3¼	3¾	4¼	4½	4½	4¼	3¾	3¼	2¾	2	1¼	½
3¾		10¾		15½*		19¼*		19¼		15½		10¾		3¾	
½	1½	2½	3½	4	4½	5	5½	5½	5	4½	4	3½	2½	1½	½
¾	1¾	2¾	4	4¾	5½	6	6¼	6¼	6	5½	4¾	4	2¾	1¾	¾
5		14		21*		25*		25		21		14		5	
¾	1¾	3	4¼	5	5¾	6¼	6½	6½	6¼	5¾	5	4¼	3	1¾	¾

* *Total values for the squares of 20 degrees.*

Royal Institute of British Architects.

At a Special General Meeting, of Members only, held on May 9th, 1870, Mr. T. H. **Wyatt**, President, in the Chair,

The **President** said that, before proceeding to business he wished to say a few words. At the last meeting he was very unexpectedly called upon to occupy the chair of the Institute as their new President, and he was unable at the time to thank the members as he could have wished. If he had studied the dictates of his own feelings he would have declined the honour, no one knowing better than himself his own shortcomings; but as he felt that all were bound, in the interests of the profession and of the Institute, not to shrink from labour or responsibility, he trusted they would accept "the will for the deed." He felt that the same generous confidence which induced them to elect him would further induce them to aid him in his efforts to maintain the high honour and standing of the profession. No effort would be wanting on his part to promote the welfare of the Institute, and trusting to the kind co-operation of the members, he relied upon their kind consideration and support.

Professor **Donaldson** said, that before proceeding to business, he would announce that the Royal Society for Promoting the Fine Arts at Antwerp intended to hold an International Exhibition for 1870, which would be opened on August 14th.

CASE OF MR. E. M. BARRY, R.A., AND THE OFFICE OF WORKS.

Mr. C. L. **Eastlake**, Assistant Secretary, having read the notice convening the meeting, viz:—

> "To consider whether any and what steps should be taken by the Institute in reference to the subject of a recent correspondence (printed by order of the House of Commons 4th April, 1870), between Mr. E. M. Barry, R.A., and the first Commissioner of Works, respecting Mr. Barry's duties as Architect of the New Palace of Westminster, and in reference to certain communications on the same subject received by the Council from Architectural Societies in Scotland, Ireland, and the Provinces."

The **President** said, that this was a most important and interesting subject, and one which the Council had had before them a long time, and they now felt that the time had arrived when they would be glad to be fortified with the expression of opinion on the subject by individual members of the Institute, as well as the opinion of the Institute as a body. It was a very difficult and vexed question. They had received a quantity of letters bearing upon the subject, which would be read. Although the Council had some doubts of being able to arrive at any practical conclusion to-night, it would strengthen their hands very much to receive the opinion of individual members. The Hon. Secretary would now read several resolutions and letters which had been received on the subject.

Mr. **Seddon** then read the following resolution (passed by the Council on March 14th, 1870):—

> "That it having been referred to this Council to advise a member, whether he is bound to comply with a requisition, 'to give up all the contract plans and drawings of a building (to which he

had acted as architect), and all other papers necessary for affording a complete knowledge of the building and of the works carried on in connection therewith,' the Council express their most decided opinion that the rule and custom of the profession is, that all the drawings and papers of an architect prepared for the purpose of erecting a building are, and remain, the sole property of the architect."

Mr. J. P. SEDDON stated that the Council had put themselves in communication with some of the principal Architectural Societies in Scotland, Ireland, and the provinces, with a view of ascertaining the local custom and practice in regard to the ownership of architects' drawings, and that the following opinions had been received in reply:—

THE GLASGOW ARCHITECTURAL SOCIETY.

At a meeting of the Glasgow Architectural Society, held on the 25th April, 1870, the following resolution was passed:—

> "That a letter be addressed to the Royal Institute of British Architects, stating that it has been the invariable practice in this district to regard drawings as the property of the Architect; and that this principle is always adhered to."

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

(*Extract from a letter dated* 27*th April*, 1870.)

> "The statement of the Royal Institute of British Architects on this point" (the question at issue), "correctly and properly expresses the hitherto existing and well-known practice of the profession in this country; and our individual practice has been, where occasion arose, to assert our right to the ownership of plans and drawings."

THE LIVERPOOL ARCHITECTURAL SOCIETY.

At a meeting of the Architectural and Archæological Society, held 20th April, 1870, the following resolution was passed:—

> "That this Society much regrets to learn that the First Commissioner of Her Majesty's Works should have been induced to prefer any claim to the ownership of the drawings and other documents prepared for the works in the Palace of Westminster, thus departing very widely from the practice of his predecessors in office for a period of thirty years; and this Society, being strongly of opinion that the plans, the specification, and other documents employed by the Architect are and continue to be his sole property, hopes that the Architect, E. M. Barry, Esq., will steadfastly resist the claim of the First Commissioner of Her Majesty's Works, as otherwise the rights of the profession to retain their property in such documents will be seriously imperilled."

THE MANCHESTER SOCIETY OF ARCHITECTS.

At a meeting of the Council of the Manchester Society of Architects, held 9th April, 1870, the following resolution was passed:—

> "That the Manchester Society of Architects, being satisfied of the correctness of the views as to the ownership of Architects' drawings set forth in the Rules as to professional practice drawn up by the Royal Institute of British Architects, desires to assure Mr. Barry that he will have their cordial support in resisting the demand of the First Commissioner of Her Majesty's Works to deliver up to him the drawings prepared by his late father and himself, in their capacity of Architects to the Houses of Parliament."

THE BIRMINGHAM SOCIETY OF ARCHITECTS.

At a meeting of the Birmingham Society of Architects, held 28th April, 1870, the following resolution was passed:—

> "The Birmingham Society of Architects being of opinion that by the rules and practice of the Profession the drawings of an Architect are his own property, desire to assure Mr. Barry that he will have their support in resisting the demand of the First Commissioner of Her Majesty's Works to deliver up the drawings prepared for the Houses of Parliament."

Mr. SEDDON then read the following letters, from individual members of the profession, on the same subject:—

From SYDNEY SMIRKE, R.A., Fellow.

Grosvenor Street, May 9th, 1870.

Dear Sir,—As I understand that the subject of the ownership of the working drawings will be mooted to night at the Institute, may I be permitted, as a very old member, to address to you a few lines on the subject, without personal attendance?

Besides being an old member, and besides being an architect, who has practised in London almost as long as any living professional man, I have the still further advantage of knowing familiarly the practice of my late brother, Sir Robert, who was so much older than myself that his practice carries us back to the very commencement of the present century.

I can confidently say, then, that although the working drawings are occasionally given to the client out of courtesy, and in compliance with some particular and special wish, there is no *right* whatever on the part of the client to claim them, nor did I *ever* happen to hear of such a claim having been set up until now.

Very faithfully yours,
SYDNEY SMIRKE.

From EDWIN NASH, *Fellow.*

5, Adelaide Place, London Bridge, E.C., 9th May, 1870.

Dear Seddon,—I am very sorry that I am unable to be at the Institute this evening.

I most fully support the custom of proprietorship in the architect of such drawings as have been made by him for the *execution of a building.*

In a long practice I have never given up *such* drawings without at the time stating that they are my property, and have only given them out of courtesy in the few instances in which they have been asked for, and when I have considered that no occasion for keeping them remained.

I am, dear Sir, faithfully yours,
EDWIN NASH.

From F. P. COCKERELL, *Fellow.*

18, Manchester Square, May 5th, 1870.

Dear Mr. President,—I regret extremely than an engagement in the country will prevent my being present at the Special Meeting upon the subject of Mr. Barry's controversy with the Office of Works. I cannot however withhold my protest against the claims of the Office of Works, and I desire to express my most earnest hope that the Institute will not allow this dangerous precedent to be established without making a strenuous effort in its corporate capacity to support Mr. Barry. I hope that every member of the Institute will feel it a duty to subscribe to any fund that may be required for this purpose, and to which I shall gladly contribute £5. or £10., or indeed any sum that the Institute may ask from its Fellows.

It will no doubt be interesting to the meeting to know what were my father's views upon this subject. He most expressly and invariably claimed all drawings as his own property. I have to-day learnt of several instances in which he carried this principle into practice.

1. Where a private client claimed the drawings, but upon my father's objecting to give them up, the justice of the objection was admitted, and the drawings paid for.
2. Upon his retirement from the Bank of England the drawings were not claimed, Sir John Soane having established a precedent by carrying away every scrap of paper, but my father expressly and formally handed over his own papers to the Governor as a gift.
3. In the case of a dispute between the Corporation of Liverpool and a tradesman employed by my father (in which there was also some want of confidence towards the latter), the drawings referring to the matter were claimed. My father denied the claim, but eventually surrendered the small-scale drawings which had been submitted to the Corporation, on the ground that the dispute with the tradesman would be prejudiced by their absence. He however refused to give up his working drawings.
4. A provincial architect came to ask his advice some twenty years ago. He distinctly advised him to resist the claim, and instanced his own unvarying practice. I must apologize for the length of this letter. I am, yours truly,

FRED. P. COCKERELL.

From T. CHATFIELD CLARKE, *Fellow.*

63, Bishopsgate Street Within, London, E.C.,
May 9th, 1870.

Dear Sir,—I am very sorry I cannot be present at the Institute to-night, as the question is one of deep interest and importance to architects in many senses.

In a case where I was concerned, my solicitor held that I was entitled to retain the plans, but that I was bound to deliver up the contract which had the specification attached, and as the contractor had an action then pending against my client (I having recovered my fees by a suit), it was in the face of a demand from the contractor that I should retain the contract for his benefit, as however he refused to indemnify me from a threatened suit from my client's solicitor for this detention, the contractor's solicitor advised that an attested copy would suit their purpose, and I gave up the contract.

Faithfully yours,

THOS. CHATFIELD CLARKE.

From G. FOWLER JONES, *Fellow.*

Botham, York, 7th May, 1870.

Dear Sir,—I much regret being prevented going to town on Monday that I might be present at the Special Meeting of the Institute and hear the discussion on the subject raised between Mr. Barry and the Government as to the ownership of professional drawings. Although in the course of my practice for the last twenty-nine years I have never had occasion to maintain my right with legal proceedings, yet in two instances it has been formally recognised, which, as in some measure bearing upon the question, I think they may be of some use to mention, and you can make whatever use you think proper of this communication at the meeting.

One case is that of a lunatic asylum I erected about twelve years ago—for which buildings it is required by the *Act of Parliament* that the original design, contract drawings and specification should be kept in the possession of and retained by the Clerk of the Committee of Visitors. I represented the injustice of this, and the unusual nature of the restriction to make the proper and legitimate use of the drawings for carrying out the works, and the consequent expense entailed upon me in having to provide an additional set of tracings, &c. The Committee took this into consideration, but could not do anything as to the drawings, but unanimously allowed my charge for the extra tracings.

The other instance was that of a private gentleman who had employed me off and on for some years in making drawings for extensive alterations and additions to his mansion in Scotland, which from various causes was delayed until about four years ago, when everything was ready for a start; the work was indefinitely put off on account of his health and inability to attend to any business. In arranging for a settlement of my fees his legal advisers required me to give up the drawings, &c. which I had prepared; this I refused, merely producing them to prove my claim, and although I compromised it rather than proceed against an old friend, I had my drawings returned. These cases are the only ones of any moment that I can name in my own practice as at all bearing on the subject, and as other members will, I trust, make known their individual experience, I hope the accumulated evidence will assist the endeavours of the Royal Institute of British Architects to do good service to the profession generally by energetically supporting Mr. Barry in his right to retain not only his father's drawings but his own

In haste I remain, dear Sir, yours faithfully,

GEO. FOWLER JONES.

From HORATIO K. BROMHEAD, *Architect.*

Glasgow Architectural Society, 159, West George Street,
April 22nd, 1870.

Dear Sirs,—With reference to the enclosed letter, I may say, personally, I once had a case of a proprietor saying that he found he could not carry out the building because of being unable to arrange buying up an existing lease of the ground, and on that plea asking a reduced charge, which I agreed to, and fortunately mentioned on the receipt.

I found out that the drawings were at the quantity surveyors; this led me to call there next morning, and find that estimates were nearly ready to issue. Of course I took away my drawings. The affair ended in my lawyer showing the enclosed Royal Institute of British Architects' scale of charges, as fortunately approved by the Glasgow Society, to the lawyer on the other side, and making him believe he had no legal ground for a case.

This case not having been taken into court, does not give legal precedent; but it shows what may often happen if the law is made to be against architects, and it shows the importance of the Royal Institution of British Architects having defined the proprietorship of drawings.

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I am, dear Sirs, yours, faithfully,

HORATIO K. BROMHEAD.

From THOMAS P. BRADLEY.

11, Dale Street, Liverpool, May 6th, 1870.

Liverpool Architectural Society and Mr. Barry's case.

Dear Sir,—I have a note from our Hon. Sec., asking me to let you know the result of our circular, and what was said in reference to Mr. Barry's case at our Council meeting.

We have received twelve replies, and hope for more. The general tenor of the replies may be taken as follows:—First, "That a client has no right to the drawings prepared by an architect for his works"; and Second, "That it is not the custom to give up such drawings, and whenever it is done it has been through courtesy and a personal feeling of regard for the client."

There was not time to discuss the question at the meeting, and a special one is to be called for that purpose.

I am, Dear Sir, yours truly,

THOS. P. BRADLEY.

From THE MANCHESTER SOCIETY OF ARCHITECTS.

Manchester Society of Architects,
Royal Institution, Mosley Street, Manchester, April 25th, 1870.

Dear Sirs,—I am now in a position to reply to your circular of the 20th, having obtained written replies from the members of this society, which enable me to state—

1. In *no* instance have the drawings of a building in progress, or of a complete building, been given up to the client, though they have been asked for.
2. Copies or tracings of some of the drawings, such as plan of principal floor, plan of drains or gas pipes, have been and are frequently given to clients on the completion of a building, or in some instances the builder's copy of such plan or other drawings as a matter of courtesy.
3. In cases where by disagreement with the client, or when the latter is prevented by any circumstances from proceeding with the building when the drawings have been prepared, they appeared to have been invariably given up on payment of the architect's account.
4. No case has occurred in which the members of this Society have had to defend their right to the ownership of drawings by legal means.
5. The request for any copies of drawings, except that of the drains, is exceedingly rare.

I have looked through the back numbers of the "Builder" to 1848, but only find two cases in which the ownership of drawings has been contested—one January 14th and February 18th, 1860, in which the County Surveyor of Norfolk successfully maintained his right to retain original drawings—and one January 15th, 1861, Collier *versus* Reid in which the architect lost his case through bad management on the part of his lawyer. From the replies I have received from our members, I find that in making out their accounts they generally word them, "For time occupied in designing and superintending, &c., &c.," and *not* "To preparing drawings, &c."

No doubt you will be prepared with the best arguments for the retention of drawings, still even at the risk of repeating such, I may observe that the case of a lawyer giving up draft deeds is not analagous, he is paid for the production of the papers, *they* are the end, and he does not give up his stock form of a will or a lease, &c.

A painter is commissioned to produce a painting, and does not give up his sketches and studies.

An architect is employed to effect an end, the production of a building, and the means by which he communicates his instructions to the artificers are *his*; it would not be difficult to suppose a case, where by constant attendance at the building, any other drawings than the sketch, plans and elevations might be almost dispensed with.

The great difficulty in the way is that in case No. 3, before mentioned: it is usual to give up the drawings on payment of two and a half per cent. commission—but this is done—because otherwise the client would neither have building nor anything else in return for the money paid to the architect.

I may add that we have already communicated to Mr. Barry that we shall be glad to contribute to any general subscription in aid of the legal expenses he may be put to.

I am, yours faithfully,
J. MURGATROYD,
Hon. Sec.

The CHAIRMAN then said, that wishing to know a little of the custom of the Engineers, he had written to Mr. James Forrest, and had received a reply, of which the following is an extract:—

"I annex an extract from a form of agreement which Mr. W. H. Barlow has invariably made with his Directors on this subject. I cannot learn that there has been any decisive settled rule of practice. Mr. Gregory seems to hold that the client has a right to all that his money was paid for, but that the engineer should be permitted to have copies made at the expense of the client.

I am, your faithfully,
JAMES FORREST."

The extract referred to:—

"Also, that on the completion of the (works, &c.) he furnish the directors of the at his own cost and charges with a correct plan and section of the line, branches, &c.; and correct copies of plans or tracings of the *general* drawings* of all the station buildings, bridges, &c., &c., and that he be paid, &c."

Professor DONALDSON said, that this was a subject of the greatest importance to the profession. They would observe that it divided itself into two distinct questions; the one was as to the dismissal of Mr. Barry from the office of Architect to the Houses of Parliament, and the other as to the right which the Chief Commissioner had of requiring that Mr. Barry should deposit in the office of the Commissioner of Works all the drawings and plans connected with the building. There were, therefore, two questions, and he (the Professor) apprehended that the latter was the only one to which the answers they had received had been directed. But the other one also was very important, and as it pressed in point of time he should beg leave to draw attention to an extract from a letter which he had received from Mr. Barry relating to it:—

24, Oxford Square, W., 8th May, 1870.

My dear Mr. Donaldson,— . . . . . As regards the drawing question, I am in the hands of the profession. If I consider myself alone, I must be guided by my own advisers; if, however, the Institute wish the matter decided as a public question, I feel I ought not to refuse to be their instrument in getting the case settled. I feel too keenly the kind way in which I have been supported by the Institute and the other Societies to hesitate as to this. I have fully explained all this to Mr. Godwin, as I had already done to you. Please return the enclosed letter.

Yours, very sincerely,
EDWARD M. BARRY.

He (the Professor) did not feel that he was betraying any confidence in reading this or the following letters, because he considered that the present was a friendly meeting of the profession to consider the matter in all its points, and it was well that they should be in possession of all the facts in order to arrive at a sound and reliable conclusion. He had in his hand a letter addressed by Mr. Edward Barry to Mr. Gladstone on the subject, which he would read:—

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* As distinct from *Working* drawings, which remain with the Engineer.

(Copy.)

PRIVATE. 24, Oxford Square, 22nd April, 1870.

Dear Sir,—After your kindness to me I am very reluctant to trouble you again, but as Mr. Ayrton is treating me (as I think) very unjustly, and refuses all redress, I am forced to appeal to the highest authority.

The Houses of Parliament have always been in the charge of an officer of Mr. Ayrton's department, except for architectural works. This arrangement I have never sought to alter. Architectural works have always been entrusted to me, as architect to the building. This Mr. Ayrton has put an end to; he has dismissed me since the 31st March, without reason assigned, at a time when several of my works are half completed. To my questions respecting these he refuses any answers, and I am at a loss what orders to give to the contractors, and fear public inconvenience may ensue. Notwithstanding Mr. Lowe's kind assurances to me that he did not intend the Office of Works, &c., to be charged with architectural duties, or to take them out of my hands, Mr. Ayrton is now submitting to the Committee on New Refreshment Rooms a plan which comes under this designation. It takes a room from the House of Lords without their consent, and threatens the building with injury both architecturally and otherwise. The slight to me in this matter is the more marked, because I prepared a plan for the same thing last year, which was approved in principle by Committees of *both Houses*, and printed and laid before the House of Commons by Mr. Layard. Mr. Ayrton has peremptorily required me to give up to him all my drawings; and to this request, although most unusual, and I think unfair, I have acceded for the sake of peace.

He further demands of me all my father's drawings. These were made before my appointment, and were my only legacy from my father. You will easily understand why I prize them, and should be pained to part with them. I have offered Mr. Ayrton copies of any he requires; and much as I should grieve to lose them, I would even refer the whole matter to the friendly arbitration of some impartial person, if I could thereby avoid public contention, which is very painful to me. Mr. Ayrton's only answer to my offer is a threat of legal proceedings.

I have now been a public servant at the Houses of Parliament for ten years, and can refer confidently to all my official superiors (Mr. Cowper Temple, Lord J. Manners, and Mr. Layard). During this time I have competed for the great national works of the Law Courts and the National Gallery. The only result to me hitherto of having been successful in both competitions has been serious harm and loss. I need not say how greatly this will be aggravated if my only Government employment be now taken from me without a cause, and my long connection with the Houses of Parliament (since boyhood) be terminated in public and unmerited disgrace.

I have the fullest confidence in yourself and Mr. Lowe, and shall be grateful if you will enquire into my case and deal with it according to your convictions of its justice. I may add that as I have never had a salary, no saving to the public can result from my removal, nor have I ever looked on my connection with my father's great work as a question of emolument. Apologising for venturing to trouble you with this appeal,

I remain, dear Sir, yours, very respectfully,

Right Hon. W. E. Gladstone, M.P., &c. &c. EDWARD M. BARRY.

In reply to this Mr. Gladstone wrote:—

(Copy.)

11, Carlton House Terrace, S.W., May 4th, 1870.

My dear Sir,—I have enquired into the subjects of your letter of the 22nd April, and have conferred upon it both with Mr. Ayrton and with the Chancellor of the Exchequer.

The Treasury is doubtless invested with a controlling power over the Office of Works, but this has especial reference to finance, and it evidently contemplates the restraint, not the enlargement, of his plan and proceedings.

Mr. Ayrton has concluded that it is not necessary that an architect should be specially attached to the Houses of Parliament. This is a judgment which I do not feel myself to be entitled to question, and while I regret any inconvenience to yourself which may be involved, no discredit can attach to the loss of an employment, for which, in his judgment of the responsibility to Parliament, there has ceased to be any adequate occasion.

Mr. Ayrton assures me, with regard to the drawings, that what is required is not the delivery of the drawings of Sir Charles Barry but of the contract working plans and the like executed by subordinate persons. Upon this basis I should hope that no difficulty could arise.

In justice to Mr. Ayrton, I perhaps ought to add that Mr. Chancellor of the Exchequer, who has looked into the matter, concurs in Mr. Ayrton's judgment as to dispensing with the service of a separate and special architect for the Houses of Parliament.

I remain, my dear Sir, faithfully yours,

E. M. Barry, Esq. W. E. GLADSTONE.

To this letter Mr. E. M. Barry replied as follows:—

(Copy.) 24, Oxford Square, 9th May, 1870.

My dear Sir,—Although I have received your letter of the 4th instant with great regret, I hasten to thank you very sincerely for the attention you have so kindly given to my case. I am glad to believe that as I receive no salary, no objections of a financial nature can be urged against my continuance in my post. It is also a source of great satisfaction to me to learn that in your opinion no discredit can attach to me from my abrupt dismissal in the midst of my work, and I should be glad indeed to think it possible that the public would adopt a similar conclusion.

After your letter I feel it would not be respectful if I were to seek to press upon you again my unaltered views of the treatment I have received from Mr. Ayrton, and I therefore content myself with again expressing my grateful sense of your personal kindness in the matter.

It is right, however, to say that the demand on me for drawings is *not* confined within the limits that have been stated to you.

Yours, very respectfully,

Right Hon. W. E. Gladstone, M.P., &c. &c. EDWARD M. BARRY.

It was proper that he (the Professor) should put the meeting in possession of this, because it was necessary that they should be in possession of all the facts which they could possibly get together. He believed that the opinion of Mr. Barry's solicitor (Mr. Freshfield) had been taken upon the point, and also the opinion of the solicitor to the Council. According to these opinions, Mr. Barry was advised that it was not for his own private interest to refuse the requirements put upon him, or to refuse to give up the drawings which he is required to give up. They would perceive, then, that there were two questions involved—the one was the appointment of Mr. Barry as architect to the Houses of Parliament—whether it was proper that a building of that character should be confided to a mere clerk in the Office of Works, or whether a special architect ought not to be employed by the Government? It was another question as to whether the profession were obliged to give up any and what drawings. He believed it was impossible for them to refuse certain drawings, but there was a certain line to be drawn, and what that line was was the question for consideration. It should be borne in mind, that Mr. Barry had, from the first, offered to give Mr. Aryton all he could fairly ask for.

Mr. SEDDON said, that the claim upon Mr. Barry was to give up everything.

A MEMBER said, it was an important point in this question to discover whether there were any contract drawings.

Mr. C. BARRY said, that the specific question was put to his brother's advisers as to whether any distinction, legally speaking, could be drawn between what were called contract drawings or general drawings? Their opinion was that it was doubtful if there was any such distinction, and that the right to any of the drawings might raise the question with regard to the others.

Professor DONALDSON begged leave to suggest that the question put them was "What is the practice of the profession?" They could not answer the legal question.

Mr. ALLOM, jun. said, that he once had to make some drawings for a building, and as the scheme was abandoned entirely, and the drawings cost a deal of time to complete, and feeling that his client who had retained the drawings would not pay the amount owing upon them, he (Mr. Allom) got his solicitor to bring an action for their re-possession. The action went to trial, but at the last moment the drawings were sent back to him.

Sir WILLIAM TITE said the question was really this, How could they best serve Mr. Barry in the discussion in the House of Commons on Friday next? His own opinion was, that the less they interfered the better. He thought the ground Mr. Gladstone had taken could not be disputed. Mr. Gladstone had narrowed the discussion to this question, "Are we obliged to have an attached architect, or can we dismiss him?" He allowed that the argument was very strong, that Mr. Barry's dismissal was unkind, discourteous, and unprecedented, particularly while works were in progress; but it was a matter in which the Institute could not interfere. He had had a long conversation with Mr. Cowper Temple upon the subject, and that was the point he meant to press. Any interference on the part of a public body might be more mischievous with the House of Commons than useful. If he saw his way to recommend the meeting to adopt any particular course he should be very happy indeed to suggest it, but he did not see how it was to be done. Probably, however, there were others who could supply the information. Mr. Barry had been very unkindly and discourteously treated. Was it possible for the Institute to say that it was unusual to have a great building without an attached architect? He did not know that they could very well say that; it might be so, or not, but he could not see that it was for them to interfere in a question of that kind, and that was the real point before the meeting. Mr. Barry had been dismissed. His dismissal while works were incomplete was obviously unjust, and that point did not require discussing. He was at a loss (having thought a great deal about the matter, and having talked it over with Mr. Barry) to say what the Institute could allege to the House upon this question which would not be considered impertinent.

The CHAIRMAN said that Professor Kerr had suggested a petition.

Sir WILLIAM TITE said that a petition went for nothing; it was merely thrown upon the table, and disregarded. Was there any reasonable suggestion that the members, as wise men of business, and members of a public body, could put into Mr. Cowper Temple's hands? To say that it was irregular and unusual to dismiss a man when his work is half finished was superfluous, because it was perfectly obvious, and he believed that that was the great strength of Mr. Cowper Temple's case. He wanted the meeting to address itself to the difficulty he had referred to. The difficulty was this: It was intended, with a view to economy, and arising a little out of the absence of good taste on the part of the Treasury, to do away with the practice of having standing architects for our great public buildings. The Treasury had an idea that one architect was as good as another, and that a builder's clerk was as good as an architect; and as something was saved by this policy, it was the more readily adopted. There was a parallel case afforded by the New Post Office buildings, which were being erected under a clerk of the Office of Commissioner of Works, at a moderate salary. He did not know what sort of building it would be, but probably it would be found out, when too late, that it was a bad one. The Government generally had very leading men in their service, and—to use a very intelligible phrase—it was "a new dodge" of the Government to act as it had done with reference to Mr. Barry. But it was an economical dodge, and, therefore, acceptable to the House of Commons, which was very great at snubbing art and architects—of which it knew nothing. How could the Institute take any course or pass any resolution which would strengthen the hands of Mr. Cowper Temple in bringing forward the case of Mr. Barry? If they considered it desirable that the extraordinary architecture of the Houses of Parliament, should be placed in the hands of competent persons—that it was so peculiar that it was not to be dealt with by an ordinary artist—something of the kind might be said; and they might express their extreme regret at works half executed being interrupted. That was the kind of thing he wanted the Institute to consider. With regard to the other point of the dispute, it appeared to him that Mr. Barry had thrown the case up. Mr. Barry had told Mr. Gladstone that he had given up his own drawings, and was quite prepared to give up such other drawings as might be wanted. In that view of the case Mr. Gladstone's letter was a little apologetical. He said that Mr. Ayrton did not mean that all Sir Charles Barry's wonderful drawings should be given up, but that a certain amount of them should be handed over to him. He (Sir William) did not see that the Institute could do much more than it had done. They had explained to Mr. Ayrton that it was not the practice of the profession to give up the drawings of a completed building. He (Sir William) always believed that the right to the possession of the drawings was beyond question. As he had told Mr. Barry, if any one wanted him to give up his drawings of the Royal Exchange he would resist the claim. He thought it was a question for a jury whether it was, or was not, the practice of the profession. He thought that if they liked to assume and re-assert, or re-affirm the excellent resolution of the Council they could do so, but he did not think it would go very far with the House of Commons. Their use to Mr. Barry would turn upon what they could say to strengthen the hands of Mr. Cowper Temple on Friday. But with regard to the other question, he thought it would give offence, and he did not think that Mr. Cowper Temple intended to introduce it at all. He would say what Mr. Barry, in his own letter, had very kindly said, that he would give up all that he could as a gentleman, and that Mr. Gladstone did not want more than might reasonably be expected of him. How could they help Mr. Barry in this case, which affects the whole of the profession? In the affirmation that Government buildings of great value ought to be placed in proper hands, and particularly that they should not be interrupted by any notions of economy, or any other considerations, in the middle of the works in progress? He would not recommend them to confine themselves more to the first point than to the last, viz., as to whether drawings should be given up, or not. If he were asked to go into court, and was asked the question as to the custom of the profession, he should say that he never knew such a request to be made, much less to be attempted to be enforced. He knew that Sir Robert Smirke had all his drawings—of the Post Office, for instance—all bound together in covers, and ticketed, docketed, and catalogued. He had seen the same thing with regard to the Custom House, when Sir Robert Smirke directed what was virtually the rebuilding of that edifice. Sir Robert did not suppose that these drawings belonged to his employers, or he would have been a fool for his pains in going to the expense and trouble he did over them. Nobody ever asked him for a drawing. How many others had this question asked? He never knew it to occur yet. They would see the delicate position in which everybody was placed by this dispute, and would best serve the interests of the profession by turning their attention to the public position of Mr. Barry.

Mr. **George Godwin**, F.R.S., could not agree with the latter part of Sir William Tite's address. If the profession allowed this case to go by default they would never again be able to raise the same issue. If this were to be surrendered no architect hereafter could refuse to give up his drawings. Although the law might perhaps be doubtful, he did not think the case had ever been fairly tried. The case of Mr. Brown (referred to in one of the letters read) never went to a final legal conclusion. Upon certain representations being made, the Town Council yielded, and either paid Mr. Brown for his drawings or gave them up. The custom was so universal that he thought it was quite time that the Institute and professional societies throughout the country should formally establish it. Not many years had passed since judges refused to listen to the statement that five per cent. was the customary commission on new works to be allowed to an architect, but by the constant reiteration of the assertion in court the custom had come to be generally acknowledged, and he fancied that no judge in these days would refuse to consent to an account charged on this plan. He thought that an opportunity now presented itself for establishing on a firm basis the custom of the profession with regard to drawings, which was one absolutely common sense in its nature, and absolutely necessary for an architect—viz. that the drawings do belong to the architect, and that he is not to be called upon to hand these drawings over to his employer—that they belong to him as a right. On the other hand, it was quite out of the question that Mr. Barry should be left to fight out the question by himself. His lawyer would probably say, "I cannot advise you, as an individual, to spend a thousand pounds upon a case which may go against you; but if it were a public body in your place I should say most decidedly 'Try it.'" The case was, a difficult one, and he thought it was the duty of the Institute and of every member of the architectural body throughout the country to form a subscription list, and solicit Mr. Barry to refuse to give up the drawings. He had very little doubt, from the temper that had been manifested throughout the country, that a considerable subscription would be forthcoming, and therefore he hoped the Institute would not advise a surrender. But whatever was done must be done at once. He was quite willing to subscribe five guineas towards the expenses of the trial.

Sir DIGBY WYATT said he had listened with great anxiety to what fell from Sir William Tite. Now Sir William occupied a double capacity, and his feelings and interests as an economical member of the House of Commons might have caused him to cool in his extreme interest in the maintenance of the standing of the profession. He was delighted to hear Professor Donaldson so clearly state the compound nature of the question the meeting had to consider. It was not only a question as to the ownership of drawings,—that was a legal point; but one which he (Sir Digby) regarded as of much more importance, viz., the oppression of an individual architect by an authority which single handed it would be impossible for any architect to fairly cope with. He last night sat down and tried to frame a few resolutions, which he would venture to read, just throwing them out as what he desired to see carried, but at the same time expressing his entire readiness to concur with what might appear to be the dominant feeling of the meeting. With regard to the notion of fighting this question, he thought there could be no question whatever that, if it should be considered that it was a question which ought to be at any time fought, the present was the necessary occasion to do it. As Mr. Godwin had truly said, to allow the question to go by default now would be to allow it to go by default for ever. He also thought that the question ought to be fought by the profession, and not by Mr. Barry. To that end he should be happy to subscribe twenty guineas. These were the resolutions he should like to see carried.

Sir DIGBY then read a series of draught resolutions:—

1st. Condemnatory of the conduct of Mr. Ayrton.

2nd. Sympathising with the position of Mr. Barry.

3rd. Urging action on the part of the Institute both towards the Premier and the legislature, with a view to make manifest the indignation felt by the profession generally at the course adopted by Mr. Ayrton.

4th. Urging the usage of the profession with regard to an architect's retention of an interest in his drawings after the completion of the work for which they had been prepared.

And 5th. Pledging the meeting to support Mr. Barry, by a subscription if necessary, in bringing the above question to a legal issue.

The strong words used might possibly produce a smile, but the matter under discussion he could assure them was no laughing matter at all. It involved the respectability of the profession in the eyes of England. To have—instead of a minister of fine arts, as they had in France—instead of an intelligent person who should be really capable of entering into the questions which affected the profession, and who should be able to judge between fit and unfit men for employment on national works, a man put in a situation which required the exercise of judgment in matters of architecture, who had publicly boasted of his ignorance of and contempt for art, was a matter for the most serious reflection of the members of the profession; it was important to them individually as well as collectively. The profession had been publicly insulted—and that by a government presided over by a minister professing anxiety for the progress of national technical education, and the culture of art and science. On all occasions when Mr. Ayrton had had an opportunity of having a fling at them he had taken it, and in so doing he had exhibited neither intelligence nor prudence. Sir William Tite had, with his usual kindness of heart, suggested in a practical way, that it would be imprudent for them to make any strong opposition to Mr. Ayrton's authority, as it might be productive of injury to Mr. Barry. On the present occasion Sir Digby considered it fitting to sink partisanship, and believed himself to be speaking entirely upon the public dignity of our national art. He spoke as an Englishman as well as an architect. It was disgraceful that what had been done should have been done. It was disgraceful that letters such as Mr. Ayrton's should issue from any minister of the State. Instead of being honest and straight forward, they ignored the points and arguments in Mr. Barry's letters, were as rude as they well could be, and as costive as those in which lawyers' usually hold "the other side at arm's length." He would, by permission of the meeting, read them a short sample (Sir Digby then read No. 3 of the printed correspondence.)

Mr. G. Russell *to* Mr. E. M. Barry.

Sir,—Adverting to my letter to you of the 22nd of January last, I am directed by the First Commissioner of Her Majesty's Works, &c., to remind you that no steps have yet been taken by you to place the plans and drawings of the Palace at Westminster in the office of the Clerk of the Works.

The First Commissioner desires me to add that he has not thought it necessary to enter into any discussion of the topics raised in your letter of the 10th ultimo, based upon assumptions which he does not recognize, and he requests that you will be good enough to comply with the directions contained in my letter to you of the 22nd of January last, above mentioned, before the close of the financial year, and that you will also be good enough to forward all the contracts or correspondence constituting them which at present remain unexecuted.

I am, &c.,

E. M. Barry, Esq. GEORGE RUSSELL, Secretary.

Now that was in reply to a long? patient, courteous, and argumentative letter by Mr. Barry. Could anything be more insulting? No Government office and no Government position could justify such a letter. He hoped that Mr. Cowper Temple would make it known to the House on Friday that the profession was of opinion that Mr. Barry had been most unhandsomely treated. Sir William Tite had deprecated such a course as he (Sir Digby) would like to see pursued, but he (Sir Digby) believed that the House, on learning the facts of the case, would strongly sympathise with Mr. Barry. It was to be regretted that while the House had under its consideration the extension of popular education, a member of the Government had brought that good cause into contempt by insulting those who possessed the highest art training.

Mr. **Ferrey** said, that for thirty-five years he had been in practice, and had never been called on to give up his drawings. He had been employed by public bodies and private individuals, and never in any instance had he been required to give up documents which he considered as his own. Sir Digby Wyatt had rather startled him by the stringent terms in which he referred to Mr. Ayrton's conduct in this matter, but he (Mr. Ferrey) was inclined to take a middle course.

Professor **Donaldson** said there were two distinct questions—one was the supporting of Mr. Barry in the immediate emergency in the House of Commons on Friday—the other could be dealt with by the Professional Practice Committee.

Mr. C. F. **Hayward** said, that twice in his short experience had he been called upon for drawings of buildings—once for those of a building that had been executed, and once for those of a building intended to be executed, and which went so far as tenders being received, but was not carried out. In both cases the question was thoroughly argued out. He was required most peremptorily to give up the drawings, and he as peremptorily refused, and his clients gave way. He hoped that something definite in the matter would be done, for now was really the time. They must not allow themselves to drift any further away from this question. The Institute ought to have made a bold determined stand once before on a point to which he called the attention of the Institute. It was a case in which the profession was sadly maltreated, and he thought that if the Institute and the profession showed a bold front on all such occasions it was the best policy they could possibly pursue.

Mr. **Austin** said, he thought they were rather going away from the kind advice given by Sir William Tite. They had one object paramount that evening, viz., to give any suggestions by which they could strengthen the hands of Mr. Cowper-Temple. He was not speaking quite from his own experience, but he thought it might be generally stated that if they looked around within the last forty years on the number of cathedrals and other public buildings which had fallen into disrepair, they would see some little of the causes and reasons of that state of decay, and it would invariably be found that such buildings have been in the charge of a sort of clerk of the works, who had patched them up to the best of his ability, but often very badly. They might point to such instances by way of illustration. He considered that they might, as a body, ask that the Government should consider whether a building on which the nation has spent so many millions of money should be neglected to save the commission of any architect, and merely to suit anybody who happened to be a Minister.

Professor **Kerr** said, that if any stranger to the profession had listened to the debate, he would come to the conclusion that they had at last been forced into opposition by a long series of outrages, and he would have formed so far a proper conclusion. The question was now before the great jury of the country, and they must consider in what degree the public would support them in their demands. He thought they would all agree as men of the world that the public would not support them on the present occasion in respect to the drawings, because Mr. Barry had already conceded that matter. Mr. Barry was ably advised; and they could not expect him to yield his own interest for the sake of a public principle, which might, after all, have proved to be an error. But as regards the other question, he thought they were on entirely different ground, as the opinion of the Institute was in full accord with the opinion of the public that the Houses of Parliament and all other public buildings should not be placed in charge of incompetent hands. If they could express that opinion in a businesslike and respectful way, they would do a deal of good for Mr. Barry and no harm.

Mr. C. **Barry** said, that the lawyer's opinion was given very much as Mr. Godwin put it, viz., that it was not desirable that his brother, as an individual, should fight such a question. As to the distinction between the contract drawings and the working drawings, there was none in the eye of the law. At the same time, Mr. Freshfield had told his (Mr. Barry's) brother that the custom of the profession would be the one of the chief points on which he could rely. As to the concession of drawings by his brother, he had only promised to give such as might be required by Mr. Ayrton as a *gift*, but with respect to his father's drawings, four thousand in number, it would be impossible to supply them, although he was not unwilling, for the good of the public service (if Mr. Ayrton chose), to have them traced at the Government expense. These concessions were very different to what had been represented. He had had no case in his own practice in which he had been asked for drawings, and had they been claimed he should have resisted. A brother architect (Mr. Bull), architect to Day and Martin, had been required by his clients to give up his drawings; lawyers' letters passed, the result being, however, that Mr. Bull was successful, insomuch that the lawyer of his clients advised them not to press the claim to be paid for the drawings, and Mr. Bull was paid for supplying copies of them.*

Mr. W. FOGERTY said, that as one who had engaged in more than one legal contest in support of the rights of the profession, he wished to give the benefit of his experience; that was to the effect that the danger to be apprehended was not so much from without as from within. As to the legal rights of architects, he thought it a pity that the Institute had not a standing counsel. The Irish Institute had such an officer, a gentleman who, along with the present Attorney-General for Ireland, had acted for him, and both had given careful attention to the legal rights of the profession. Of course the main question always was, "What is the custom?" Not long ago, one of the members of the Irish Institute, Mr. J. E. Rogers, was called upon, just as Mr. Barry was, to surrender his drawings, and under the advice and with the support of the Institute had declined to do so, the result being that the clients (a Board of Guardians) found it best to give in. Some time afterwards it was his (Mr. Fogerty's) misfortune to meet with certain clients who fancied that the usage as set forth in the Institute paper was an imposition, and should be resisted. He had deemed it his duty to bring the matter to trial, which was done with a powerful array of counsel on both sides. His position was, that the Institute document truly and honestly set forth the usage, and this was abundantly proved by Sir Charles Lanyon and several other architects of eminence. The Chief Baron, before whom the case was tried, took particular interest in the case, which he said was of great importance as defining the relations between architects and the public. The particular question now under discussion was raised amongst others, and Sir Charles Lanyon gave very satisfactory evidence on it, stating that the right to retain the drawings was the architect's only protection against piracy. The case was going on very well with every prospect of a successful issue, when a Fellow of the Institute appeared as evidence on the other side. This gentleman, to his utter astonishment, swore directly contrary to the Institute document, as not truly stating the usage, and gave other evidence calculated to bring it into disrepute. ("*Name!*") He had furnished the name to the Council—Mr. Deane. The Judge had of course to let the matter go to the Jury, who, finding that architects were not agreed, were unable to agree either, and the matter has remained undecided ever since. He (Mr. Fogerty) was fully determined to bring it into court again, as he believed the usages in question existed long before they were published by the Institute. He would, however, respectfully suggest that if Mr. Barry was to be supported in a similar case by the Institute, it should be carefully considered what kind of evidence was likely to be brought into court. He thought it lamentable that men who in joining the Institute had made a declaration to abide by its rules and promote its objects should be found ready to assist in subverting both, to the grievous injury of their brother architects. He had brought the whole matter fully before the Council, but he was sorry to say that body seemed to regard it as a matter of no consequence.

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* See letter from Mr. E. Bull, on this subject, inserted at the end of this report.

Mr. **Seddon** said that in Mr. Deane's absence it was only fair to state that when the case was brought before the Council there was a strong conflict of evidence as to the facts.

A **Member** said that the executors of the late Mr. Charles Reed, the Surveyor to the County Courts to the late Government, had a similar demand made upon them by the Government to that which had been made upon Mr. Barry. The executors resisted the claim, but expressed a willingness to give them up to the nation at a fair valuation. The whole of the drawings were immediately put into the hands of Mr. Noble, who named a sum to the executors as what he considered a fair compensation for the drawings, and the Government admitted the claim, though they did not pay the precise amount named by Mr. Noble.

Sir W. **Tite** thought that a deputation should wait upon Mr. Gladstone. If an interview was refused it would answer his (Sir William's) purpose just as well, because he could state that if the deputation had been heard they would have explained matters which he would bring forward. Let them try to see the Minister, and if they could not succeed (Sir William), if supplied with the facts of the case would take care to bring them under the notice of the House.

Mr. **Horace Jones** could not help thinking that the remarks of Professor Donaldson hit the matter in the right spot. He divided it into two questions, and such division was necessary, but if Mr. Penrose's resolution was taken both questions were mixed up. The one was immediate, the other less pressing. Let a special committee be formed to consider the immediately urgent question as to the re-instatement of Mr. Barry, and let another special committee be formed to resist the demands made in respect to the drawings, and, if found necessary, to carry it into court; he would put his name down on the subscription list.

After a long conversational discussion, in which Sir Digby Wyatt, Professor Donaldson, Mr. E. I'Anson, Mr. Penrose, Mr. Horace Jones, Mr. Charles Barry, and Mr. J. P. Seddon joined,

Mr. **Penrose** said, he should be willing to accept Sir Digby Wyatt's amended resolutions if he would move them clause by clause.

Mr. **Jennings** said, he had been engaged for many years on large works, and before they were all completed, alterations took place in the board of direction and the general staff, terms were proposed to him which he did not choose to accept, and he consequently declined having anything further to do with the works or being responsible for them. His employers claimed the drawings; he took professional advice, and the opinion he received was that anything which constituted part of the contract—any drawing which was signed by the contractor—necessarily became part of the contract, and that that contract was the property of the employer; but that those drawings which were not signed, and which were merely made for convenience as a means of describing how the work was to be done, the architect was not bound to give up. The result was that he gave up the signed contract drawings, but he absolutely refused to give up any others, although he said that he should feel bound to give his clients any information as to the building at any time it was required, on condition that he was paid for any loss of time he was put to. Although in law those things which form part of the contract are the property of the employer, there can be no doubt that an architect is entitled to charge for *copies* put on two parts of a contract.

Mr. O. **Hansard** said, that with regard to the Corporation of King's College Hospital, that edifice had to be built in separate portions, extending over several years. On the completion of one portion of the building the Corporation demanded that the whole of the drawings and the specification should be placed in their hands. Mr. T. Bellamy, the architect, following the usage of the profession, objected strongly to this, and after much dispute as to the right of possession, a compromise was effected, by which it was agreed, that they should be handed over to the Corporation on the death of the architect.

Mr. **HAYWARD** said that there were a large number of signed contract drawings of the brothers Adam in Sir John Soane's Museum. This, he thought, showed that in the time of the Adams's the contract drawings, as were all others, were considered the property of the architect.

Mr. E. **BASSETT KEELING** handed in to Mr. Eastlake the following report from the 'Builder' for July 7, 1866:—

"Architect owner of his Plans.

"In the County Court, on Friday, before Mr. J. K. Blair, Judge, Robert Esdaile, Harford House, Fairfield Crescent, Fairfield, who appeared in person, sued Thomas Mercer, architect, 40, Church Street, for the detenue of certain plans and specifications of property for which the defendant had been architect. The plaintiff stated that some time ago, requiring some alterations of property in London Road, he employed the defendant to prepare plans and specifications. After the work was completed he required the plans, in order that he might be prepared when any question of drainage or repairs arose. He called at the defendant's office several times, and at length was told that the defendant declined to let him have the plans. For the defence it was contended that it was the custom of the architect to retain the plans he made as his own property, unless a special contract to the contrary was made. Sometimes the plans were given up, but merely as a concession. He called Mr. Worley, architect, who confirmed the allegation as to the custom of architects retaining their plans as their own property. The owner of the property might have obtained the plans that the builder worked from. The Judge non-suited the plaintiff, and allowed defendant his costs."

Mr. **FERREY** said he remembered perfectly well that the late Mr. Wilkins had in his possession all the drawings of King's College, Cambridge, and the National Gallery, and he believed that they were now in the possession of Mr. Wilkins's son.

Mr. **AITCHISON** said it was a very important thing to know whether architect's drawings really belonged to them after the completion of the building. Now-a-days, large companies and the like, who had dealings with contractors or employed clerks of works, endeavoured very hard to get hold of all the drawings. An instance of this sort of thing was afforded by the Privy Council, who always kept the plans of schools erected under their auspices.

Professor **DONALDSON** said the Church Commissioners did the same thing.

Sir **DIGBY WYATT** then proceeded to move his motion, in clauses as follows:—

1st. That it is fitting and indeed necessary for the worthy maintenance of national monuments and buildings, that they should be always under the superintendence of professional men of independent position and high standing, who have been specially educated as architects.

Seconded by Mr. **FOGERTY**, and carried unanimously.

2nd. That the custom of the profession has uniformly been, that the ownership of drawings and other documents, prepared for the execution of buildings, has rested with the architects employed.

Seconded by Mr. **GODWIN**, and carried unanimously.

3rd. That a copy of the above resolution be forwarded to all the Members of both Houses of Parliament, and that the widest possible publicity be given to the same.

Seconded by Mr. **NEWTON**.

Mr. **PENROSE** wished the meeting to reconsider that point. He thought it would be better to leave to the discretion of the Council the amount of publicity to be given to their doings.

Sir **DIGBY WYATT** said he could not defer to Mr. Penrose's suggestion, as it was necessary that the matter should be expeditiously arranged; moreover, he thought it would be invidious to make any selection in the matter.

It was ultimately agreed that the widest possible publicity should be given to the proceedings of the Committee, and the third clause, as amended, was agreed to.

Mr. BOULNOIS quoted a Government precedent in the matter set within the past few weeks by Mr. Cole. This made the second Government precedent with which they could back up Mr. Barry's refusal to accede to the demands of the Government.

Mr. C. BARRY said he could give another Government precedent. Mr. Sorby, who held the position of architect and surveyor to the County Courts, on entering on the duties of his office, found himself in charge of a large number of buildings of which he had no plans. He therefore pressed his superiors to obtain for him copies of the drawings which had been made by his predecessors. On applying to the representatives of the architects who had drawn the plans the question of property was raised, and such drawings could not be had without a money payment. The money was paid by the Government, and the drawings obtained.

Mr. FOWLER remarked that where architects had been employed officially at a salary he thought the case was totally different to that when they were only employed on commission. If an architect accepted a position at a salary, he sold—so to speak—all his mind to the office which he undertook, and therefore he sold all his copyright to the works he erected.

Sir DIGBY WYATT having then moved the fourth clause of his resolution, which was seconded by Mr. Boulnois,

A lengthy conversation ensued, in which Mr. Fogerty, Mr. Boulnois, Mr. Hayward, Professor Donaldson, Mr. Horace Jones, Sir Digby Wyatt, Professor Kerr, Mr. Hansard, Mr. Newton, Mr. R. W. Edis, Mr. J. P. Seddon, Mr. Fowler, and the Chairman took part. In the course of this conversation the fourth clause was amended, and finally put, as follows:—

4th. That a Committee be appointed, to consist of the President, Vice-Presidents, the Council, and such other Members of the Royal Institute of British Architects as the Council may deem fit, and that this Committee be authorised and requested on the part of the said Institute to support and to urge upon Her Majesty's Government, either at interviews, by correspondence, or otherwise, the views expressed in the previous resolutions; with the power to convene future Special General Meetings for further consideration of the subject whenever they may see fit.

Seconded by Mr. BOULNOIS.

Mr. HORACE JONES proposed as an amendment:—

"That it be an instruction to the Special Committee to seek from Her Majesty's Ministers and advisers, a means of bringing to a legal test (without the prejudice of personal feeling as regards any architect employed by Government), the question of their demand for the possession of an architect's drawings, &c."

The CHAIRMAN then put the amendment and Sir Digby Wyatt's original motion to the meeting, when the former was carried, as above.

Sir DIGBY WYATT then moved the fifth and sixth clauses of his resolution, as follows:—

5th. That a vote of cordial sympathy with Mr. E. M. BARRY be communicated to that gentleman.

6th. That he be encouraged by the expression of such sympathy to resist to the utmost the unprecedented demand made upon him: and that, in the event of expenses being incurred with reference thereto, in trying at law any questions which may arise between himself and the First Commissioner, this Meeting pledges itself to promote the raising a guarantee fund for the same.

It was further *resolved*:—

"That the President and Hon. Secretaries be empowered to request Sir WM. TITE, M.P., ex-

President, to procure, for a Deputation from the Institute, the favour of an interview with the Premier, on the subject of Mr. E. M. Barry's case."

Carried by acclamation.

A vote of thanks to the Chairman, proposed by Mr. G. GODWIN, brought the meeting to a close at a late hour.

At the Ordinary General Meeting held on Monday, 16th May, 1870, T. H. WYATT, President, in the Chair.

PRELIMINARY PROCEEDINGS.*

CASE OF MR. E. M. BARRY, R.A., AND THE OFFICE OF WORKS.

THE PRESIDENT said that before proceeding with the business of the evening, he wished to inform the members what steps had been taken with reference to the subject of the last special meeting. He would state that a deputation from the Institute had waited on Mr. Gladstone in reference to the case of Mr. E. M. Barry. Sir W. Tite and several members of the Council attended on the occasion, but as he (Mr. Wyatt) was unable to be present, and therefore was not in a position to report precisely what took place, he would beg their attention to an abstract of the proceedings which Mr. Eastlake had prepared, and which would probably be interesting to the meeting.

Mr. **EASTLAKE** then read as follows:—

DEPUTATION TO THE GOVERNMENT.

"In accordance with a resolution passed at the Special General Meeting, held on Monday, the 9th May, 1870, a deputation from the Institute waited on Mr. Gladstone at Downing Street at 3 p.m., on Friday, the 13th inst. It consisted of the following members: Sir W. Tite, M.P., and A. J. B. Beresford Hope, Esq., M.P., Ex-Presidents; E. I'Anson, Vice-President; Sir Digby Wyatt, Messrs. G. Aitchison, A. W. Blomfield, D. Brandon, F. P. Cockerell, H. Currey, R. W. Edis, G. Godwin, J. H. Hakewill, O. Hansard, C. F. Hayward, R. Kerr, T. H. Lewis, J. Peacock, E. Roberts, R. L. Roumieu, T. Roger Smith, J. P. St. Aubyn, G. Truefitt, F. Warren, W. White, S. Wood, J. P. Seddon, Hon. Sec., C. L. Eastlake, Assistant Sec.

The deputation was received by Mr. Gladstone, with whom were also the Chancellor of the Exchequer (Mr. Lowe), and the First Commissioner of Works (Mr. Ayrton).

Sir W. **TITE**, having introduced the members, said that it was not his intention to refer to the legal question of the right of ownership to architects' drawings; he might, however, state that the resolutions recently passed by the Institute, and copies of which had been sent to every member of the House of Commons, only confirmed the professional custom and practice which had long existed in this country. Sir William added that he had never been asked by any client to give up his drawings, and if he had been so asked, he would certainly have declined to do so. The main object of the deputation was, however, to call the attention of her Majesty's Government to the abrupt dismissal of Mr. E. M. Barry from his office of Architect to the Houses of Parliament, under circumstances which were made known in the correspondence, recently published by order of the House of Commons, between that gentleman and the Office of Works. The whole affair had been fully discussed at a

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* A Report of these Proceedings has already appeared in Sessional Paper No. 10, but is reprinted here in connection with the Report of the Special General Meeting on Mr. E. M. Barry's case, to which it forms a sequel, in order to render the whole account complete.

Special Meeting of the Institute, and he was bound to say that the feeling in the profession was exceedingly strong on both points, viz.: the question as to the ownership of the drawings, and also as to the slight cast on Mr. Barry. Having given this short explanation, he would now leave those who had taken a prominent part in that discussion to speak for themselves on the subject.

Sir DIGBY WYATT stated that he represented his brother, the President of the Institute, who was unavoidably prevented from attending. He referred to the strong feeling entertained by the Institute that Mr. E. M. Barry had been dismissed from office in a very unjustifiable manner, and especially alluded to the uncourteous, and he might even say rude nature of the answers which that gentleman had received during his correspondence with the Office of Works on this subject. Sir Digby dwelt on the imperative necessity of consigning public buildings of any architectural importance to the care and professional superintendence of a competent architect, which was the universal custom in foreign countries. With regard to the ownership of architects' drawings, he observed that the deputation based their views on the professional custom recognized not only in London, but in the provinces, on this subject. He trusted that Her Majesty's Government would remember that Mr. Barry had neither refused, nor wished to withhold, any information of a practical kind which was necessary to the Office of Works, and which it was in his power to supply; but, as a matter of principle, sanctioned by undeviating custom, it must be maintained that the drawings and documents prepared for the purpose of erecting a building were the property of the architect who designed it. Sir Digby remarked, that while the policy of the Government might be dictated by worthy motives in promoting national economy, that policy would effect but a short-sighted economy if exercised on occasions like the present. He would, moreover, remind Her Majesty's Government that Mr. Barry, during his term of office, had not been paid by salary, but by commission, for works carried on, and that the extent of such commissions had not exceeded £300. per annum, so that the expense saved for the future was not worth consideration. Sir Digby added that the present unsettled state of the law of copyright was an additional reason why an architect should maintain the right of ownership to his drawings, which in point of fact constituted his sole protection against piracy of design.

Mr. BERESFORD HOPE, M.P., spoke, as Past-President, of the architectural importance of the Houses of Parliament, and of Mr. E. M. Barry's zeal and attention to the professional supervision required from him while he remained in official charge of the building, and during the alterations and additions carried on in connection with them. He referred to the cavalier and abrupt manner in which Mr. Barry had been dismissed from office, and to the injury likely to ensue to the public service in the Department of Works if the course adopted by the Government should be formally confirmed.

Mr. GEORGE GODWIN, F.R.S., said he had been requested, as an old member of the Institute, to add some words to what had been already said. First, as to the ownership of drawings; as a matter of universal custom they belonged to the architects. As the conductor of a professional journal he had corresponded during five-and-twenty years with persons in all parts of the kingdom on this subject, and he could say that in no one case of which he was aware had the claim when made on the part of the employer been maintained. He was not aware that any case had been settled in a court of law; representation of the existence of the custom and the common sense on which it was founded had sufficed to bring about a settlement. The custom prevailed everywhere. He believed copies of resolutions to that effect from societies in England, Ireland, and Scotland, not to speak of America, had been already handed to the Minister. He thought the Courts would hesitate before coming to any decision in opposition to a custom so long and generally held, even should they happen to be of another opinion. It had been asserted in a public journal that the Institute of Architects had wrongly interfered in expressing their opinion that it was necessary for the worthy maintenance of national monuments and buildings that they should be under the superintendence of specially educated men of high standing. He could not agree in this objection. The Institute as a body were wholly disinterested in so speaking, and he knew no other body from whom the public might more fairly look for an expression of opinion on the subject. Reference had been made to various public buildings, each placed under the superintendence of an architect. He might add to the list by naming nearly all our cathedrals. These important structures had suffered for years by being left to the care of a mason or a clerk of works; but the opinion of deans and chapters had become educated on the point, and now he believed there was not one that was not under the supervision of an architect. The profession were strongly affected by the course that had been pursued towards Mr. Edward Barry and the important questions that were raised by it, and he ventured to urge that it called for reconsideration on the part of the Government.

Mr. **JOHN P. SEDDON**, Hon. Sec., referring to the question raised as to the ownership of drawings, advanced as a reason for the custom of architects retaining them the fact that an architect, in his position of umpire between his client and the contractor, ought to hold the contract drawings as between those contracting parties. Accidents and claims might arise after the completion of the work, and the contractor might fairly look to the architect for the drawings which were evidence of the contract, particularly as oftentimes the employers were temporary committees disbanded when the work was complete, and by whom the drawings might be lost or mislaid. The detail drawings were only instructions given to the contractor as explanatory of the contract drawings, and it would be as reasonable to call upon the architect to give up his private letter-book as those. Mr. Seddon also pointed out that contract drawings never displayed the course of flues and drains, at any rate as executed, and therefore such drawings as Mr. Ayrton asked for would not be found among them, but were usually made during the progress of the work, and every architect would gladly supply his employer with such or copies of them.

Mr. **AYRTON**, First Commissioner of Works, replied, that the observations made by the deputation, and indeed the object of the deputation itself, was founded in error, and in a complete misapprehension of the course taken by the Office of Works. The correspondence which had been published between that Office and Mr. E. M. Barry contained only partial information on the subject before them; and Mr. Barry could, if he pleased, supply further details, which would put a very different construction on the matter.* He (Mr. Ayrton) begged to state that, in referring the question which had arisen respecting the right of the Crown to the Law Officers of the Crown, he had taken the only course by which he conceived he could arrive at a proper solution of that question; and he had only adopted that course after the refusal of the executors of Sir C. Barry and after Mr. E. Barry's refusal to recognize the right of the Crown to certain documents which were required by the Office of Works. It was not the whole of the drawings which had been required, but a certain portion which were necessary, and for a specific purpose. He disclaimed any intention to be discourteous to Mr. Barry. The letter to Mr. Barry did not state that he (Mr. Barry) had been dismissed from his office, but that certain official changes were being carried out. Mr. Ayrton added, that it would be impossible for him then to enter into detail, but the whole question would be discussed in the House of Commons that night, when the public would be in a better position to judge of the matter.

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* In reference to this remark, it may be well to call attention to the following letter addressed by Mr. E. M. Barry to the 'Architect' of the 28th May, 1870:—

Mr. Barry and the Government.

Sir,—Your report is the only account I have seen of what passed between the Government and the deputation from the Institute on the 13th instant.

In this report Mr. Ayrton is said to have stated that "the correspondence which had been published between the Office of Works and Mr. Barry contained only partial information, and Mr. Barry could, if he pleased, supply further details, which would put a very different construction on the matter."

I consider it due to those of my professional brethren who have so generously made my cause their own, and to whom I shall ever feel deeply grateful, that I should deny this statement (if it were ever made) in the most direct and explicit manner.

I have nothing to explain or conceal; and if Mr. Ayrton had any complaint against me in the background, it is strange that it was not stated in his correspondence, when he had every opportunity of making, and I of answering it.

It is, however, true, that if he had given in the correspondence some of the statements he made in the House of Commons, *e.g.*, the reference to the Burlington House drawings, it would certainly have been in my power to put a different construction upon those matters.

I am, Sir, your obedient servant,
EDWARD M. BARRY.

21, Abingdon Street, Westminster, S.W.,
May 25, 1870.

After a few words from Mr. Gladstone, who said that he felt obliged to the deputation for stating their views on the subject, which should receive due attention from Her Majesty's Ministers, the deputation withdrew."

The Report having been read,

THE PRESIDENT said the Council had thought it right to postpone any further action on their part until the opinion of the Law Officers of the Crown had been pronounced, and until it was known what further measures would be taken in the matter.

Mr. CHARLES BARRY, Fellow, said he was unwilling, for obvious reasons, to take any prominent part in the discussion of a subject interesting to all members of the profession, but he begged permission to make one or two observations bearing upon it. Mr. Ayrton, in his speech in the House on Friday evening, said that Mr. Gilbert Scott, as well as his (Mr. Barry's) partner and himself, amongst various architects of England, had acquiesced in the course proposed to be adopted in the case of the architect's drawings of the Houses of Parliament. To that statement he wished personally to give a most emphatic denial; he and his partner had addressed a letter to 'The Times,' which he presumed would appear on the following morning, stating that not only did they not acquiesce in the Department of Works retaining all the contract drawings in the case of the new buildings at Burlington House in their custody, but that they strongly protested against such retention; the fact being that the contract drawings in the case referred to were all signed and executed at the Office of the Department of Works, under the eye of the Secretary of the First Commissioner. Those drawings were detained, the architects were unable to get them away from the office, and it was only after a great deal of trouble and pressure that they were allowed to take tracings of those drawings. Therefore, so far from having acquiesced in the retention of the drawings by the Department, his partner and himself protested against it; and he now wished to state his adherence to the professional custom as enunciated in the resolution passed at the recent special meeting of the Institute. He quite concurred in the view taken by the Council, that any further steps in this matter would be undesirable at present, save in one respect, viz., that inasmuch as the opinion of the Law Officers of the Crown, invited by the Government, would necessarily be *ex parte*, the Council, he would suggest, should take such means as might be open to them to place before those gentlemen the unanimous testimony which the Council had received from the principal architectural societies of the country, and such others as no doubt they would receive on the same subject. Otherwise, the opinion of the Law Officers would be *ex parte*.

Professor DONALDSON, Past-President, took upon himself to say, that no steps would be taken by the Council in this matter except under the advice of their Honorary Solicitor.

Mr. SEDDON, Honorary Secretary, said it had been determined by the Council to print all that had appeared on the subject, including the proceedings of the recent special meeting.

LETTERS RECEIVED SINCE THE MEETING.

From EDWIN BULL, ESQ., *Architect.*

London, 16, Holles Street, Cavendish Square, W.,
May 11th, 1870.

The Government and Edward M. Barry, Esq., *re* Drawings of Westminster Palace.

Dear Sir,—A case bearing on this subject happened to myself very recently, and is as follows:

My father, the late Simeon Thomas Bull, was the architect to Messrs. Day and Martin's well-known factory in Holborn, which was burnt down in September last. I was applied to by the solicitor for the drawings, &c., and was paid the sum of twenty guineas on delivering them up.

I have always considered drawings to be the *exclusive* property of the architect, and should act accordingly.

I remain, dear Sir, yours faithfully,
EDWIN BULL, Architect.

From JAMES PEACOCK, *Fellow.*

15, Bloomsbury Square, May 12, 1870.

My dear Sir,—There is one practical point in our present question that appears to be lost sight of.

Assuming that signed contract plans may form part of the deed, all other details explaining them are supplied to the contractor for the use of the employer, and are not often returned, those retained are really only the copies for the architect's own use, guidance, and security. I might as well be asked to give up my private letter book.

The "Times" assumes that the employer has no plans for his money, but he has the set complete, and they are used and often worn out in his service.

What Mr. Barry is now asked for I assume to be his father's private copies.

Yours faithfully,
JAS. PEACOCK.

From ARCHITECTS PRACTISING IN LEICESTER.

Leicester, June 3, 1870.

Dear Sirs,—We cannot reprobate too strongly the attempt of the present Government to take from Mr. Barry the detail and general drawings of the Houses of Parliament.

They are decidedly the property of the architect. This has always been the custom here, and we know of no instance to the contrary.

We remain, Dear Sirs, yours faithfully,
WILLIAM MILLICAN,
CHARLES BAKER,
R. J. GOODACRE,
WM. BEAUMONT SMITH.
JOSEPH GODDARD,
JAMES BIRD,
M. J. DAIN,

From THE NORTHERN ARCHITECTURAL ASSOCIATION.

Old Castle, Newcastle-on-Tyne, June 9th, 1870.

Gentlemen,—In answer to your letter of the 20th April, requesting the opinion of the members of the Northern Architectural Association relative to the ownership of drawings, I beg to forward you a copy of resolution passed at their meeting, as follows:—

"That the universal custom in the North of England has been for the contract plans and drawings, and all other papers necessary for affording a complete knowledge of the building, to belong to the architect, and to be retained by him on the completion of the works. That it occasionally happened that plans of drains or flues are given by the architect, on the completion of a building, but such plans are always supplied either as a matter of courtesy or paid for in addition to the usual fees."

I am requested to add that the Northern Architectural Association in their scale of charges published in April, 1861, and signed by the late Mr. John Dobson, have the following note appended:—

"NOTE.—The copyright of the designs and drawings are in all cases the property of the architect."

Moreover, on the authority of the late Mr. Dobson's successor, I was requested to say that during the fifty years Mr. Dobson was in practice in Newcastle-upon-Tyne his custom was to retain the documents above referred to.

I am, Gentlemen, yours faithfully,
THOS. OLIVER (President),
for FRANCIS CHARLTON, Hon. Secretary.

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, 30th May, 1870, Edward I'Anson, Vice-President, in the Chair, the following Papers were read :—

ON THE TAJ MAHAL AT AGRA,

By W. **Emerson**, Associate.

During a stay of three or four years in the East, one meets with so much worth describing that on being asked by one's friends in the cold civilized West, what one has seen, it is sometimes a difficult matter to know what people, countries, customs or buildings to tell about first; but in the spring of last year it was my good fortune to find myself in the cities of the old Moguls—Agra and Delhi,—and of all places I have been to, either in the West or East, I unhesitatingly affirm that Agra and the Taj-Mahal stand pre-eminent in the impression made on my mind.

Venice with its Grand Canal and St. Mark's, numerous palaces and art works;—Constantinople and the Bosphorus with the Sta. Sophia and Sulieman Mosques;—Cairo with its beautiful Hassan and interesting Tooloun Mosques, picturesque streets, and Coptic churches and ruins, and the huge ugly pyramids—and Bejapore with its big dome and elaborate Ebrahim Roza, all fall into the shade contrasted with Agra and its Taj-Mahal. Its romantic situation, dazzling brilliancy, excessive elaboration, and the particularly refined, though lavish display of wealth in its ornamentation, make it beyond all others a place in which a cold-blooded Caucassian can perhaps realize somewhat of the poetical and luxurious feeling of the voluptuous Easterns. It was this that tempted me, on the receipt of a note from the Secretary of the Institute calling my attention to one of the bye-laws, to offer a paper on this subject, hoping it might not prove altogether uninteresting.

The Taj-Mahal was built about the year 1040 of the Hijree, or 1662 A.D., about the time of the Restoration, and during the latter years of the reign of Kurreem Shah, the fifth of the Mogul Emperors, grandson of the great Akbar and son of Jehangir. He is more commonly known by his assumed title of Shah Jehan, signifying the King of Worlds. It was erected as a tomb for his wife, the Begum, Ungeman Bunnoo, whose title was Moomtaz Mahal, daughter of Azif Khan, and grand-daughter of the Nawab Ettmadowla. She was also called Taj-Mahal, and Noor-Mahal, which means the Light of the Hareem or Palace. She is immortalized in our own language in Moore's beautiful poem of 'Lalla Rookh.' She had four sons and four daughters, the youngest daughter's name was Dhahur Arra, at whose birth Taj-Mahal died. Shah Jehan was exceedingly fond of her, and on her death-bed he promised two things, first, "That he would never marry again;" and second, that he would build for her so magnificent a tomb that it should surpass all others the world ever saw.

The tomb is erected on the left bank of the river Jumna, and Shah Jehan's intention was, to have erected another for himself of equal splendour on the opposite bank, connecting the two by a bridge with silver railings, so that after death their souls might be enabled to hold spiritual communion with each other. He went so far as to put in the foundations of the second, when his demise put a stop to further proceedings, and he lies in consequence by the side of his wife in her tomb, her sarcophagus occupying the centre position.

The situation of the Taj is most picturesque; it is on rather high ground, and in approaching Agra, the dazzling white of its marble is seen across the hot plain glistening in the distance while yet many miles off. From the opposite side of the river (of which the photograph I have here is very good) the group of the Taj buildings is perfect, also from the palace of Agra in the Fort, where Shah Jehan held his court and had his Zenana—with the river winding to it from the foot of the palace walls, and the vast plain beyond with a few rising hills in the distance, the charm of its delicate white marble contrasted with the red sandstone buildings adjoining, and the dark foliage of the trees, in the dull red heat of a sultry day, is something truly wonderful.

The Taj buildings altogether form a parallelogram. They consist of the Taj proper, placed on a raised dais of white marble some 20 feet high and 300 feet square, situated in the centre of the end of the parallelogram immediately overlooking the Jumna, and flanked on each side by red sandstone buildings, separated from the raised dais by courts about 400 feet wide, paved with marbles laid in geometrical patterns. One of these buildings is a mosque, the other is of no use but for its architectural effect in contrasting and grouping with the Taj, and is called by the natives the Jawab, which means " answer," and I think very well describes its meaning and use. This Mosque and Jawab are of red sandstone and white and black marbles, and inlaid with precious stones, something similar in design to the entrance gateway I shall presently describe. On the floor of this Jawab are outlines of the dome and finials, and some other portions of the Taj, cut in the pavement for the men to work from. These three buildings take up the whole breadth of the parallelogram at the end as I said, overlooking the river. At the sides of the enclosure are massive crenellated walls of red sandstone inlaid with black and white marbles, with a walk all round behind the battlemented parapets. At the end opposite the tomb is the grand entrance to the gardens from the outer enclosure—which outer enclosure is a yard with entrance gates on each of the other three sides from without.

As one drives into the outer court yard and pulls up opposite the grand entrance, the beauty and magnificence of the place immediately strike one. The gateway is two stories in height, in elevation it has a large and deep central recess, a semi-octagon on plan, domed over and flanked on either side by two smaller recesses, those on the upper floors forming galleries, and with large octagonal turrets at the extreme angles surmounted by domes supported on columns and arches. The grand centre arch is also surmounted by a row of eleven little domes on columns and arches, and flanked by slender minarets; the effect of these is particularly beautiful. There is a photograph shewing this gateway. It is built of red sandstone, inlaid with white and black marbles. The spandrils over the arches are of white marble, inlaid with semi-precious stones in the same manner as the tomb itself, which will presently be described—only the work is of much larger design and rougher execution. The jambs are ornamented with twisted roll moulds. The gateway forms a square room with large entrance arches on two sides, the outside one being hung with gates, and on the two other sides smaller doorways leading to rooms on either side, and to a staircase which leads to the galleries over these smaller doors. A seat runs round the room, and on one side is a platform for the use of servants, soldiers and gatekeepers. The lower part of the wall has a dado formed of panels of white marble, enclosed by a border of inlaid white and black marble in a zig-zag pattern. Over and at the sides of the smaller side-doors, are the peculiar little arched recesses used for placing lamps in at the time of a festival. The friezes are inlaid with sentences from the Koran. This gateway is domed over, faced internally with white choonam (or plaster) and ornamented with black lines, raidiating from the centre, which accentuate the raised ridges dividing the little hollowed spaces, which form the surface ornamentation of the interior of the dome. The gates themselves are of teak, covered with a plating of bronze with a raised pattern on it, in shape a mixture of a quatrefoil and rectilinear figure. Through this gateway, at the end of a long avenue of cypress trees, the centre of the avenue being occupied by marble fountains, basins, and flower beds, the Taj-Mahal dazzling the eyes with its whiteness is seen. On walking up the avenue and through the gardens, I could not help feeling it to be a more beautiful place than I ever dreamed of. There is almost every description and variety of flower, and on a hot day the cool sound of the water trickling along the little aqueducts which carry it to all parts of the grounds, the shady walks, and parts of the paths arched over by creepers, covered with flowers of most gorgeous colours; and the mango, guava, orange, lime and loquat trees, combine to make it a most pleasant resort. Leaving the gardens and ascending a flight of marble steps and crossing the platform of white marble, which in the bright sun dazzles the eyes so as to make them water copiously; and with " Salaam Sahib," " Salaam Sahib," from the old Mussulman priests at the entrance, one finds oneself in the inside of the Taj itself.

The contrast between the bright light outside and the solemn gloom inside is so great, that for some minutes you can see nothing. Gradually this wears off, and one sees tolerably well, though to do drawings inside I was often obliged to get natives to hold candles for me. The plan—which is shown by the drawing I have made, is an irregular octagon outside, while the centre room is a regular octagon, recessed on each side, and about 60 feet in diameter and 80 feet in height, with circular rooms in each angle of the building connected by passages running all round the centre apartment. Under this centre apartment is a crypt or small chamber, in which are the sarcophagi that really contain the bodies of Shah Jehan and Taj-Mahal. The centre portion of the inner apartment is screened off and contains the show tombs, on which the natives strew flowers, etc.

It will be seen from the plan, how light is obtained through the outer chambers and double walls, there being in no case a direct light into the principal room, and what does enter is broken by the trellis work that fills the openings. It is this that causes such a wonderfully cool and solemn effect on first entering. At each corner of the raised dais on which the tomb is placed are minarets.

The building is two stories high, the centre room running up the whole height of both stories. Access can also be had to the roof which is flat, and has four smaller domes supported on piers and arches, one over each corner circular apartment. The centre chamber is surmounted by a double dome —the one forming the ceiling being about 80 feet from the ground, and the upper one being about 260 feet high, and is the principal feature in a distant view of the Taj group.—The external elevation of the four principal sides is the same, also the four angle fronts are the same design. The arrangement of these façades is very simple. The principal ones are divided into three parts. In the centre part is a large, well-proportioned, recessed entrance arch, the height of the two stories, and surmounted by a parapet and two minarets, which being carried down to the ground as slender octagonal shafts, form the division between the main central recessed portion and the smaller parts which flank it. These side parts of principal elevations have two arched recesses much smaller than the central one, placed one over the other, and forming the two stories in height—and are exactly similar to angle elevations, being again divided from them by minarets as before described. All these recesses are square on plan, and have at back arched and square-headed openings, which are fitted with the marble trellis-work for admission of light. The domes which are over the four angles, are supported by piers and arches, the arches being foiled after the Saracenic fashion. The domes spring from a cornice formed of plain projecting slabs of marble, supported by cantalivers.

In the centre rises the huge bulbous dome, which forms the grand central feature of the Taj. It springs from a plain straight circular shaft, which rises to about the height of the tops of smaller domes. A plain twisted bead mould marks the springing. The peculiarity of this and other Mussulman domes in India is the bulbous shape obtained by making them swell out considerably beyond the springing line. This form obtains at Bijapore to a great extent. This dome is topped by a huge gilded finial with a golden crescent. The walls are mainly built of red sandstone, but completely encased with white marble. This is not done in the veneering fashion of Italy and Egypt. Each slab of marble is four, six, or even eight inches in thickness. In the construction of the dome and other places where it would not interfere with the after ornamentation, it is built up with the walls, laying first, a course as slabs of flat masonry, and then a course on edge, thereby obtaining good bond, and an external effect of alternate broad and narrow courses of about 18 and 4 inches in depth, so that rivetting was never needed.

This method obtained in many places in India, where their building stone was wedged out of the quarries in large flat slabs. About Agra and Delhi, all the buildings, whether of red sandstone or marble, were done in this manner; the interior of the walls was filled in with rubble. Also in the Myhekhanta and about Ahmedabad this is often found. Often, as in the case of the minarets to this Taj, the broad courses are done in white marble, and the narrow in black. The white marble of which the Taj was built came from Jeypore in Rajpootana, and is beautifully white, picked portions being equal to Carrara.

Were it not for the elaborate inlaid work, which, as I shall presently show, partakes more of the nature of jewellery than architecture, this building would be the simplest in the world, but very effective nevertheless—first, of course, owing to its grouping and proportion, for which you can see the photograph. Then its large broad plain surfaces are undisturbed in their repose by any projecting mouldings, while the cool delicate shadows in the large arched recesses, cause quite a sufficient balance between the light and shade. The spandrils to arches and the illuminated surfaces are as a rule set back about an inch. The plinth projects about an inch, and a slender string projecting very slightly accentuates the parapet. I think these with the bead round springing of large dome, and cornices of smaller domes, and the leaves at apex, are the only particular lines formed by shade throughout the whole external face of building.

One thing that lends a most peculiar charm to this tomb, is the wonderful delicacy of the shadows, caused by the strong reflected lights. The pavement of the raised dais being all white marble it reflects in so powerful a manner, that it reduces the depth of all the shadows by quite a half, if not by more. The difference between the shadows where the pavement is only common stone can be clearly seen on the photograph, where the shade in the arch of the mosque is two or three times as dark as the shade in recess of tomb. By moonlight there is a still more delicate tone about it, and I have often wondered whether it was in the mind of the architect to produce this effect, or whether it is the result of an accident; but the building is most suitable to a romantic idea of a tomb, for with its transparent pale grey and blueish shadows, and its wonderful beauty, it gives one, by moonlight, very much the idea of a ghost itself.

One general feature in the ornamentation of the Taj is the inlaid black marble. Every angle, arch, panel, recess, in fact the outline of each component part is marked by lines of black marble, either one, two, three, or more inches in breadth, according to the size or importance of the detail requiring accentuation. This of course accounts in a great measure for the absence of any mouldings, and I am inclined to think this method of ornamentation, or more properly accentuation, disturbs the grand repose of a building much less than any other method employing shade as the means. The sides of the raised dais on which the Taj stands are relieved by two rows of panelling, the lower row with trefoiled heads; each trefoiled recess being slightly sunk and enclosed in a square-headed panel. The spandrils over trefoils are ornamented with circles filled with carved flowers. The upper row are simple plain sunk parallelograms. There is a small balustrade protecting edge of dais about eighteen inches high, formed of little marble pillars, square on plan, with knobs on the top, and plain marble slabs, with lines of black marble inlaid, forming panels. In the centre of three of the sides of this dais are rooms or cellars, with small square-headed doors; and three of the before-mentioned panels are formed of pierced marble work for the admission of light. These would probably have been for the use of servants if the Taj had ever been used as a palace, as other Mahomedan tombs, which were usually built by great personages who used them as palaces during their life-time, and as tombs at their death. But owing to the interment of Taj Beebee directly the Taj was completed, I suppose it was never used as a place for festivities. On the other side of the dais, facing the entrance, are the marble flights of steps up to the mausoleum.

Probably the greatest ornaments to and most perfect pieces of work in connection with the Taj are the four minars at the corners. They are about 200 feet high and about 20 feet diameter at the base. But the proportion of these is so subtle, that the slightest alteration by either increasing or decreasing the diameter, or taper, or height, one feels would immediately spoil their effect. They are most elegant, but have not the starved appearance of the minarets of Egypt, Constantinople, and Delhi. They are three stages in height; at each stage a light balcony, supported on cantalivers, running round the tower, and they are surmounted by domes on little columns, and foiled Saracenic arches and gilt finials. Winding stairs take one to the summit, to which stairs access is obtained by means of square-headed doors.

I mentioned before that each course of white marble is divided by a narrow course of black, which in the distance gives an appearance of very thick joints, and makes the circular shaft tell out wonderfully in perspective.

There is a twisted bead mould under the cantalivers of balconies, which balconies are of the same design as the parapet round raised dais. These cantalivers, the little arches to dome, and a simple inlaid pattern immediately under balconies are the only ornamental parts in the minars.

The mausoleum itself is ornamented to a height of about 6 feet, with panels forming a sort of dado, edged with a border of inlaid work in semi-precious stones of various colours, and each panel being carved in relief with flowers growing out of pots, the lotus, rose, &c. The carving of these is very beautiful, finished as finely and polished in every little detail as any Italian work, and with all the freshness of design and arrangement of mediæval art. Around the arches the Koran is illuminated in black marble; in this manner it is said the whole Koran is inscribed on the Taj walls. The spandrils of the arches are inlaid with a flowing ornament of graceful design in semi-precious stones. The angle shafts forming minarets have zig-zag lines inlaid in black marble. Under the parapets is a running pattern, also inlaid; and in the parapet itself is an inlaid pattern of bold design in coloured stones. The recesses are panelled, each panel enclosing a little pointed Saracenic arched, and foliated recess. These little arched recesses being to hold lanterns. The soffit of the arch over the main recesses forms about a third of a dome, and is ornamented by working the stone after a peculiar design, which has the effect of minute and elaborate groining. Around each of the entrance doors are friezes, again illuminated with sentences from the Koran, and spandrils of coloured stones. At the springing of the dome there is also an inlaid ornament of black marble and coloured stones. The finials of all the minarets and of each of the domes are ornamented with large plain carved leaves.

The interior is in the same manner as the outside, ornamented with a carved and inlaid dado, but the carving is richer, and the inlaying more elaborate. There are only three or four patterns of the carving on the dado, but these are reversed so cleverly on opposite sides that it would not be noticed unless special attention were paid to it. The interior has over its eight recesses, two tiers of pointed arches; the upper tier forming galleries. The dome springs immediately over the upper arches, the spandrils between arches being worked into pendentives, and changing the octagon of the walls into the circle of the dome. The same system of ornament as on the outside is found. Utter absence of projections or mouldings, not even a splay. All effect obtained by inlaid ornamentation in black marble and coloured stones. The panels in sides of recesses are marked by lines of black marble as on the outside. The spandrils of lower arches are inlaid with semi-precious stones. At back of each recess are the large windows, formed of trellis-work, all plain geometrical piercings, and in many instances the openings stopped by thin laminæ of talc instead of glass.

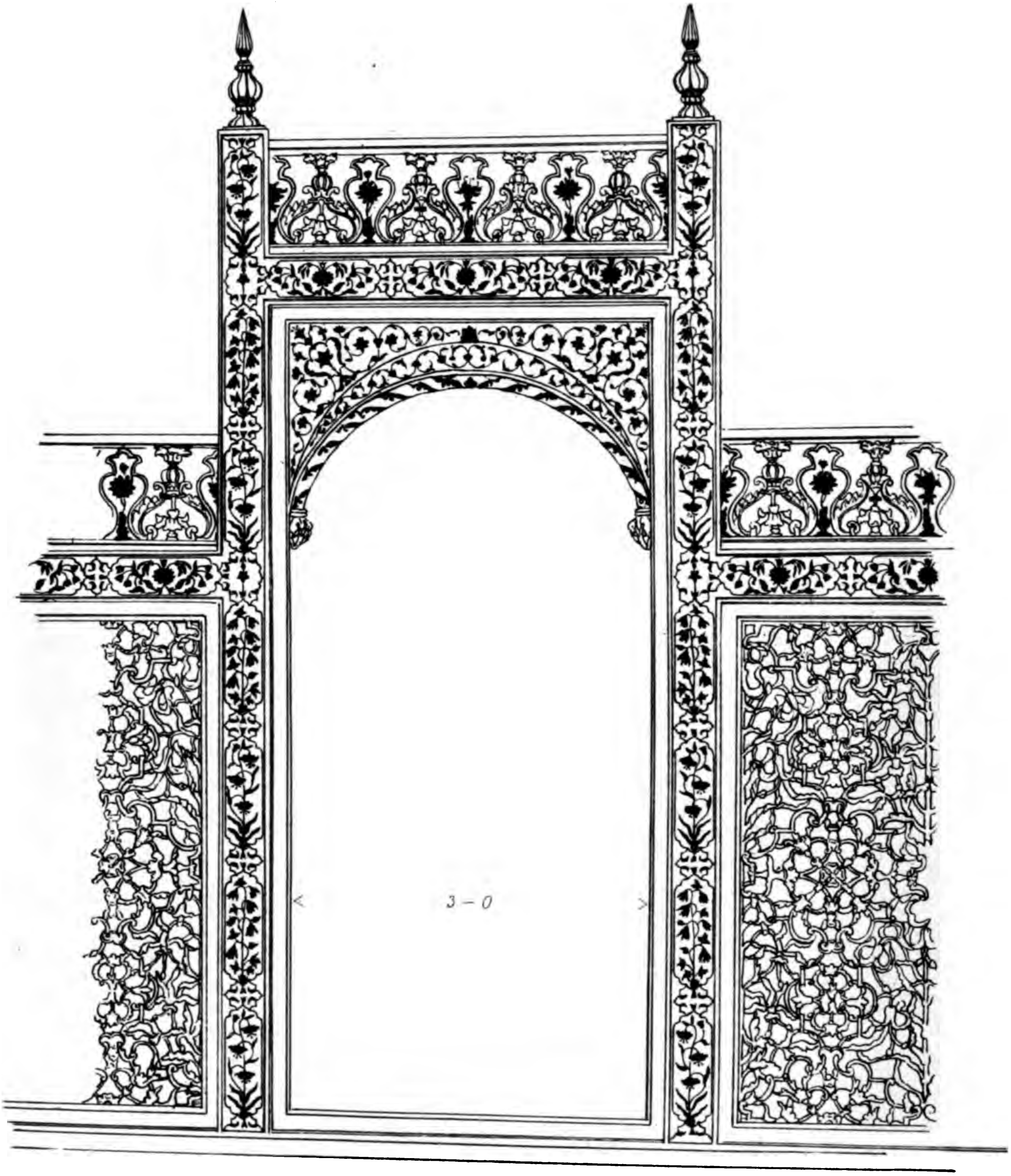
The dome, which is very dark, is covered all over with the pattern peculiar to Indian Mussulman architecture, which is formed by lines radiating from the centre, crosswise, and the spaces thus formed (which of course increase in size as the lines approach the springing of dome), are hollowed; by this means the radiating lines are in reality formed by the ridges dividing the hollowed spaces. This is often elaborated to such an extent that it is impossible for the eye to follow the pattern. In this dome over the tomb there is no colour at all, but in the domes over the entrance gates, and the mosque and jawab at sides of tomb, the ground is either white and the ridges marked with black lines, or the ground red and the ridge radiating lines marked with white, which has a very good effect. The pendentives are ornamented in a similar manner. The two rough sketches show something of the difference in effect between the simplest sort of style of ornament and that used in the Mahomedan architecture of Egypt, Syria, and Spain. The floor is of white and black marble, in geometrical patterns.

I now come to the part of this building which is the most wonderful and elaborate portion of it all, namely, the tombs and the screen enclosing them, all of purest white marble. The screen encloses an octagonal space. The detail which I show, will, I think, explain it better than my words. However, each side of the octagon is divided into three bays—the centre bay of the side facing the entrance door is an archway into the enclosure, all the other bays are like to each other and of similar design to the part at side of arch. At each angle, and between each bay, are posts supporting perforated screens, each of a single slab of marble. The drawing gives some idea of the perforation, though it is to so small a scale that it was impossible to put in the detail of the flowers. I greatly regret I had not the time to make a finished drawing of a portion full size. It is very Italian in feeling. An eighth portion of it contains the whole design; this is reversed and turned upside down to form the whole screen. It is, I should think, the most elaborate piece of marble perforation in the world, and is polished all over; both sides are finished alike. The screens are surmounted with a sort of balustrade of carved and inlaid work.

But the most extraordinary part is the inlaid work on the pure white marble posts, rails, arch, and tombs. The tombs, both in the enclosure and in the crypt below, are simple parallelograms about 2 feet high, with a small sarcophagus in the centre of each, on a plinth formed of two cymatium members, and fillets, and the top slab having an ogee mould.

The inlaid work is most elaborate, representing all sorts of flowers, worked in semi-precious stones—the stones carefully picked for each particular leaf, so that all shading and drawing of leaves is obtained by the graduated natural colour or marks in the stones themselves. At the side of the central tomb is the following inscription, in Persian:—" The splendid tomb of Unjeman Bunnoo Begum, " whose title was Moomtaz Mahal, was made in 1040 of the Hijree," and on the side of the other is: " The magnificent tomb of the king, inhabitant of the two heavens, Ridwan and Khool, the most " sublime sitter on the throne of Illeeyn (*i. e.* starry heavens), dweller in Firdoos (*i. e.* Paradise). Shah " Jehan Badsha Gazee, peace to his remains, heaven is for him. His death took place the 26th day " of Rujub, in the year 1076 of the Hijree. From this transitory world eternity has carried him off " to the next."

The drawings which I show are full sized, and as nearly facsimiles as I could make them, and will explain the sort of ornament which, it will be seen at a glance, is something similar to Florentine work.

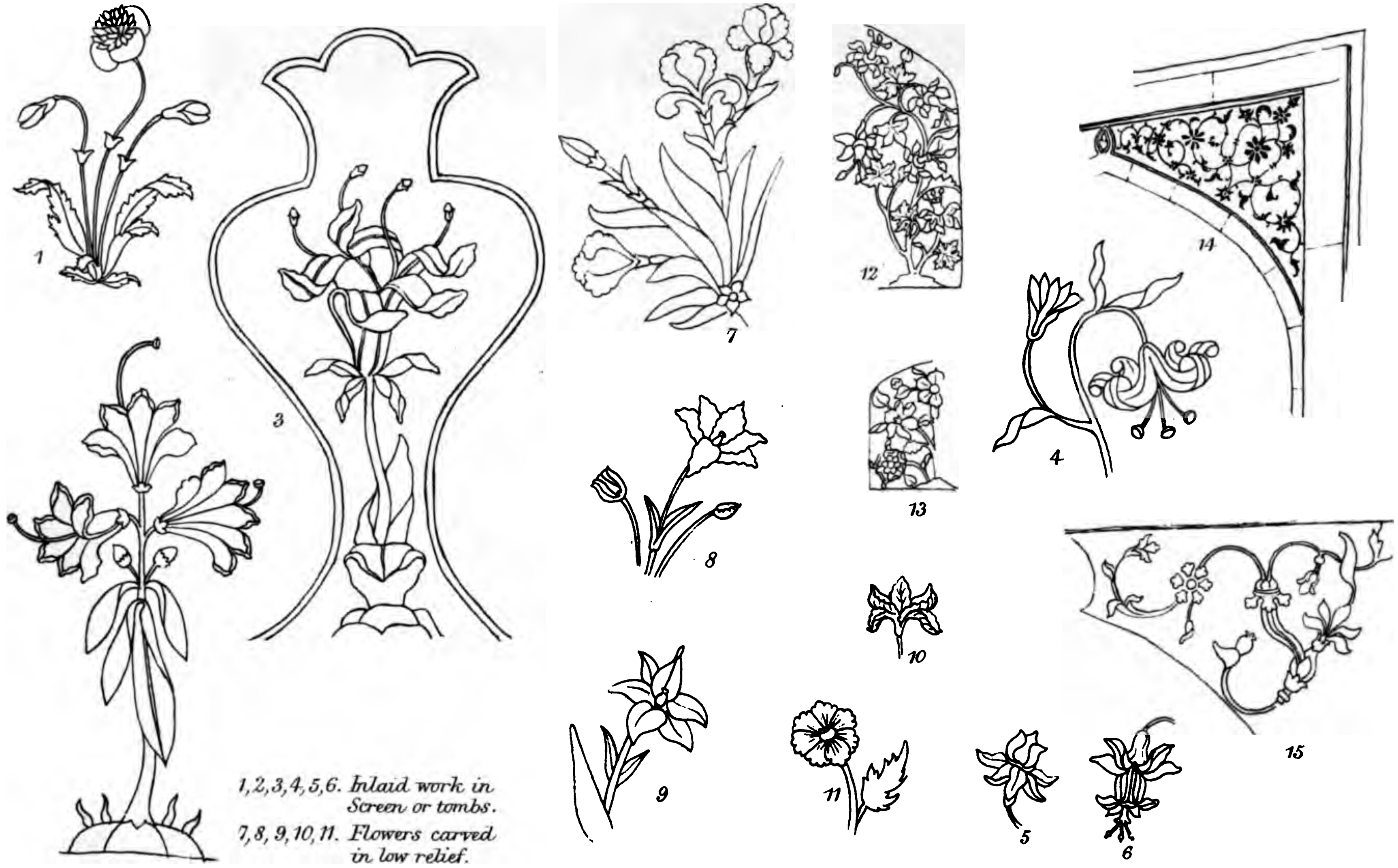


WHITE MARBLE SCREEN IN TAJ, INLAID WITH PRECIOUS STONES.

SCALE.

12 6 0 1 2 3 Feet

Photo-Lithoᵈ for the R.I.B.A by Whiteman & Bass, London.



1, 2, 3, 4, 5, 6. Inlaid work in Screen or tombs.
7, 8, 9, 10, 11. Flowers carved in low relief.
12. 13. Perforated marble.
14. 15. Inlaid ornament in Spandrils of Taj.

Nos 1, 2, 3, 4, 5, 6. Scale rather less than half full size.

Photo-Lithoᵈ for the R.I.B.A. by Whiteman & Bass, London.

In some of the roses, which are no bigger than a franc, there are thirty pieces of stone, and the jointing is generally scarcely visible. It is, in fact, jewellery. Indeed, in the centres of the flowers on the head of the tomb there were originally large emeralds and rubies, but these were stolen during the Maharatta wars. The ornament is in some places of a flowing pattern; in others, like little trees in full bloom, with magnificent flowers. The colours of the stones are arranged with such taste, and the effect is so quiet, that it is only after looking about for some time that one finds out what it is that gives the interior such a rich appearance. Not a single flower forces itself unduly on the eyes, and I have seen Europeans walk for the first time into the Taj, and go all round and out again, without ever noticing anything particular in the ornamentation of this screen and tombs. What they do notice at once is the soft echoing of every little sound. A musical note echoes and re-echoes through the dome, gradually and softly dying away. The natives believe these voices to belong to the unseen heavenly bodies, who watch over Noor Jehan and her husband. The most delicious harmony I ever heard was some singing by ladies in this tomb. The interior has the most solemn effect on one's mind—there is an amount of pathos in it that causes feelings in a sensitive person much the same as reading an affecting melancholy love story, so much so that it almost forces tears to one's eyes.

The white marble came from Jeypore, in Rajpootana, the black from a place called Charkoh, the yellow from the banks of the Nerbudda, and red sandstone from Futteepoor Sikree, about 15 miles from Agra. The stones used in the inlaying are crystal, jasper, blood-stone, cornelian, agate, lapis-lazuli, turquoise, coral, garnets, plum-pudding stone, rock-spar, onyx, chalcydony. There were also a few emeralds, rubies, sapphires, and amethysts, but they have all disappeared. There are said to have been silver doors at the entrance, looted by the Jâts, at the commencement of this century. The whole cost is said to have been about three millions of our money. It took seventeen years in building, and labour was all forced —the workmen being kept on a daily allowance of rice, &c. Orientals say it was built by one Isa Mahmoud, an architect sent from Turkey to Shah Jehan for the purpose. Others say a man named Austin de Bordeaux, a French architect, designed it. As to whether purely Oriental, or in some measure European, I should be afraid to give a decided opinion. I think there is much of Italian feeling in the screen, and also in the four minarets and some details of the cantalivers. But then at Bijapore and other places in India I thought the same with regard to many details, and no one seems to doubt that the art of Bijapore is purely Oriental. Still it is possible that Italian artists may have had something to do with it in detail; and I believe in some old manuscript accounts, mention is made of payments to a foreign artist. But this may have alluded to Iza Mahmoud or Persian artists. It was built at a time when Italians were to be found all over the world, fleeing from ducal tyranny, and some may have found their way into the centre of India; and they could have ingratiated themselves in no more favourable manner with the luxurious Mogul Emperors than by assistance in the art of magnificent building.

On festivals and holy days crowds of natives go to the Rambagh or gardens, and Taj, and swarm all over the place; and the bright and gay colour of the men's turbans and women's sarees causes the platform and courtyard around the Taj to look like a bed of flowers—very different to the dismal effect of a crowd of Londoners.

The inlaid work with which the buildings of Agra and Delhi abound is still done by natives, who make table-tops, chess-boards, &c.; but their art is as inferior as possible to this screen in the Taj, or the Zenana in the Fort of Agra, in both design, drawing, execution, and choice of stones.

The architecture of Ahmedabad and Bijapore is very different to that of Agra. The celebrated tree-window at Ahmedabad is the only piece of work that could vie with the highly-finished and delicately-designed jewellery of the Taj and the palace. The Ebrahim Roza of Bijapore has much elaborate carving and cutting—being built of a soft stone—but cannot be compared to the refined ornament of Shah Jehan's marble architecture. The palace at Delhi and Agra, and more especially the Zenana in the latter place, are in the same style, and almost as elaborate as the Taj. In the Zenana, were numerous precious stones, such as emeralds, rubies, &c. It is round a room in this style in the Delhi palace that Akbar had illuminated the renowned sentence—" If there is a heaven upon earth it is this, it is this." And if heaven consists in the gratification of the senses, I should say these people realised it; for, on a sultry afternoon—the heat hushing even the birds, and the cool, refreshing plash of the glittering fountains, seen from, and resounding through the beautiful attar-scented marble halls—these children of luxury, in languid repose, sipping their sherbet, in the calm and full enjoyment of their hulwar and their hookahs, might have been excused if they did almost fancy themselves in heaven.

In reply to Professor Donaldson,

Mr. **Emerson** stated, that such repairs to this structure as were needed were done by the government, but little was required. The gardens were kept up in a good state.

Mr. **Wyatt Papworth**, Fellow.—That is a question I was going to ask myself. I have heard that a large portion was out of repair. A great many years ago several chests of inlay wall were brought to this country for sale, and I should be glad to know from what part they were brought, as I understood they were brought from this Taj. I should also be glad to know whether Mr. Emerson was able to ascertain what the construction of the roof of the dome is. [Mr. **Emerson** believed it to be of sandstone: all cut stone.] [Professor **Donaldson**.—Is it true that in these minarets there is a centre staircase and newel?]

Mr Papworth having proposed and Mr. Seddon seconded a vote of thanks to the author of the paper,

The **Chairman** said, it is with great pleasure that I submit the proposition that our thanks be given to the gentleman who has favoured us with a most interesting communication. The form of this building reminds me very much of the buildings we met with in Constantinople and Maseam, where, I believe, all the minarets are formed with a centre staircase and newel. The overhanging platforms at different stages of the minarets are very novel pieces of construction, and I think there can be little doubt that Italian architects, who at that period pervaded the whole of the civilized world, had some hand in these structures. If this monument had been in a French instead of an English dependency, we should have had most accurate drawings and details of this remarkable work by the government. I have often thought it is a great pity that our government does not make these works better known. Individuals in their love of art and in their generosity have done much to make these monuments known, and this contribution is an addition to our knowledge for which we are greatly indebted to the author. I hope before many years to make a personal inspection of these wonderful monuments in India.

Professor **Donaldson**.—The government, through the Royal Engineers, have taken beautiful series of photographs of Indian buildings, some of them of large size, shewing the details with great minuteness. Before I saw this model I had no conception of the beauty of the details of this Taj; every part is so well poised, the central dome rising to a great height, and the minarets at the angles rising most gracefully to a height of 220 feet. That is higher than the Prince Consort's Memorial erecting in Hyde Park. In Daniell's Views of India, and also in Orme's work, there are some fine illustrations of this beautiful monument. The effect of the inlaying is most charming, and is executed very much in the style of the Florentine work. Some pieces of this Taj were exhibited by the side of some Florentine work in 1851, but the superiority of the former was manifest, and showed that artists of great skill and ability must have been engaged upon it. I have been told that this is the most beautiful monument in point of style and proportion that is to be met with in the world.

Mr. C. F. HAYWARD.—It seems to me most desirable that we should, if possible, have the means of investigating the construction of such remarkable buildings as this, and that it is the duty of the government, as far as possible, to give us representations and information with respect to these grand buildings in India; but hitherto we are chiefly indebted to private sources for such information as we have.* I did not however rise for the purpose of saying that, but to state how strongly I have retained in my mind the recollection of the remarks of the late Mr. Cockerell in his lectures, when he spoke, as he so frequently did, of the beauty of "four-square" buildings; and I can scarcely conceive anything which more realizes the late professor's ideas on that subject, than the beautiful monument which has been brought under our notice this evening. The extreme simplicity, the extraordinary delicacy of its arrangements, the answering of one corner to the other—all deserve remark. I have never ceased to recollect that portion of Professor Cockerell's lectures, while most of the rest has unfortunately faded from my mind.

The vote of thanks to Mr. Emerson was unanimously agreed to.

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* It may be mentioned that the Institute Library is indebted to the Hon. East India Company for the following valuable contributions of photographs, &c., taken to illustrate the architectural monuments of that empire:—

(*a*) Series of Photographs from drawings of the Jumna Musjeed, Gol Goomuz, Ibrahim Rozah, and Mehturee Mehul at Beejapoore in the Deccan.

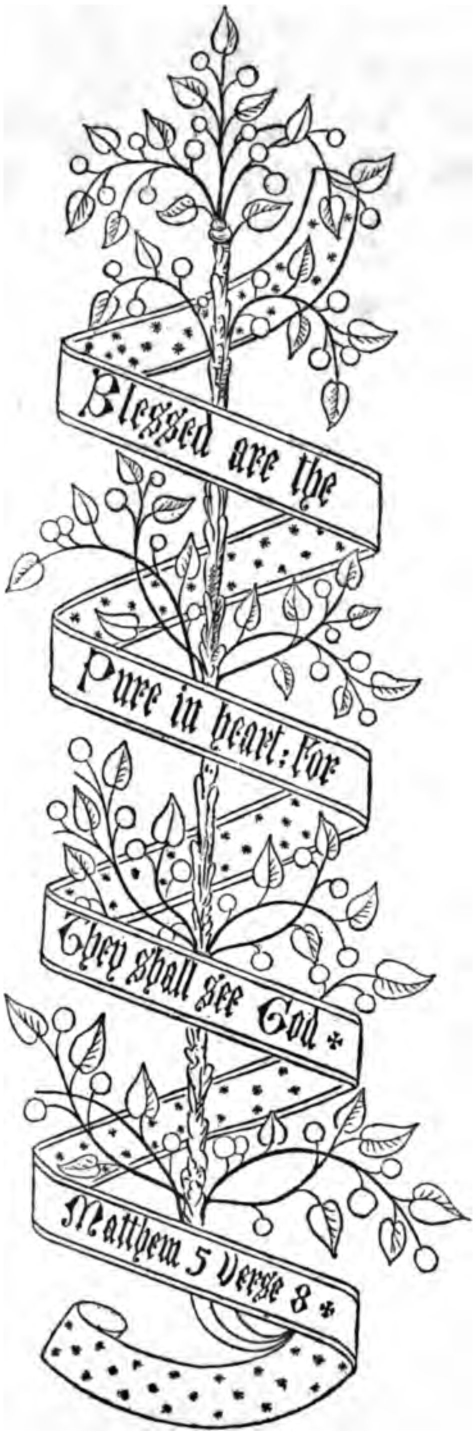
(*b*) Series of Photographs from drawings of buildings at Beejàpoor, viz., the Taj Bowree, and the Ashar Moobaruck.

(*c*) Title Pages and Index of Series of Photographs from drawings of ancient buildings at Beejapoor in the Deccan.

(*d*) Architecture of Ahmedabad; by T. C. Hope and J. Fergusson.
Architecture at Beejapore; by Col. Meadows Taylor and J. Fergusson.
Architecture in Dharwar and Mysore; by Col. Meadows Taylor and J. Fergusson.

ON A SCROLL FROM THE CHURCH OF ST. JOHN THE BAPTIST, CHELMORTON, COUNTY OF DERBY.

By **Fairless Barber**, F.S.A., Hon. Sec. of the Huddersfield Archæological Association.



The scroll, of which a full-sized tracing is produced, was met with in the south wall of the south transept of Chelmorton Church in the month of May, 1869. The church was then under restoration by Mr. Currey, a Fellow of the Institute, and the wall on which the scroll was found having to be re-built, I consider myself fortunate in having been the means of preserving some record of it.

The church is situated high up on the hills about four miles to the south of Buxton, and it serves a parochial chapelry of some extent in the large parish of Bakewell and diocese of Lichfield. Till its recent and not yet completed restoration, the structure, which is of considerable interest in itself, had suffered very much from neglect, and only by an accident has this specimen of ecclesiastical wall decoration been discovered and preserved. The contractor for the works in progress there, struck off some plaster near the windows inside to see what coigns there might be that could be used again, and in doing so disclosed on several of the successive coatings of plaster and whitewash, traces of more than one series of coloured decorations, which had been painted on the walls at different periods.

My attention was called to this discovery by the Rev. R. W. Foulger, then curate of the church, and no time was lost in making an examination of the walls, which in a few days were to be taken down. In most cases owing to the damp it was impossible to uncover with success more than small patches, but it was clear that all the walls of the little transept had once been covered with texts and sentences. The first met with were comparatively recent and of no special interest, consisting so far as could be made out of passages from the Proverbs of Solomon, closely written in black letters in straight lines so as nearly to cover the walls; beneath these, the removal of two or three coatings of plaster revealed other work, of which nothing could be made out but that it had consisted of writing on the wall, and it was not until the removal of all the plaster and the surface of the wall itself was reached, that the grand scroll produced was met with. It was boldly and vigorously drawn in distemper with black lines; the back of the ribbon was coloured a golden yellow and dotted with red stars, and the orange tree round which it was twined, had the leaves coloured in two shades of dark green, and the fruit of a bright orange.

In the reduced drawing I have reproduced the colours, which were remarkably fresh, as nearly as I could. A simple calcareous wash of a creamy colour had been laid on the limestone wall, and this was all the ground on which the work was executed. Only those lines that could be distinctly traced are represented. There had, however, been a few others, the indications of which were too fragmentary and uncertain to be followed, and it may be supposed that they would have added greatly to the beauty and symmetry of the whole. Towards the bottom, on the left hand, the leaves had been destroyed in the search for coigns. Enough, however, has been preserved to give the general character of the decoration.

All round the walls of the transept there had been similar scrolls, each bearing one of the beatitudes in English.

The Church itself contains details of various dates, commencing probably as early as the twelfth century, and the transept in which this work occurs must, I think, have been re-built and enlarged in the sixteenth century, the old windows being used again. Be this as it may, it does not seem possible to ascribe a date earlier than the beginning of the seventeenth century to a scroll bearing a text in English and associated with an orange tree. The 82nd of the Canons of the Church of England, agreed upon in the Synod, begun at London in 1603, provides for chosen sentences to be written on the churches and chapels in places convenient, and it may be that this text on this scroll was written in obedience to this Canon. Orange trees were then still costly, and had not long been introduced even into the gardens of the rich and noble. In the 'Survey of the Manor of Wymbledon,' "late parcell of the possessions of Henrietta Maria, relict and late Queene of Charles Stuart, late King of England, made in November 1649" (*Archæologia*, Vol. X, p. 339), "fortie two oringe trees, bearinge fayre and large oringes," are valued at ten pounds a tree, one tree with another.

My friend, Mr. James Fowler, F.S.A., has also reminded me that the orange tree—which is said to have always fruit in various stages of growth upon it, and even blossom and fruit together, has a symbolical meaning, which might bring to the minds of worshippers the idea so well expressed in George Herbert's lines on "Employment":

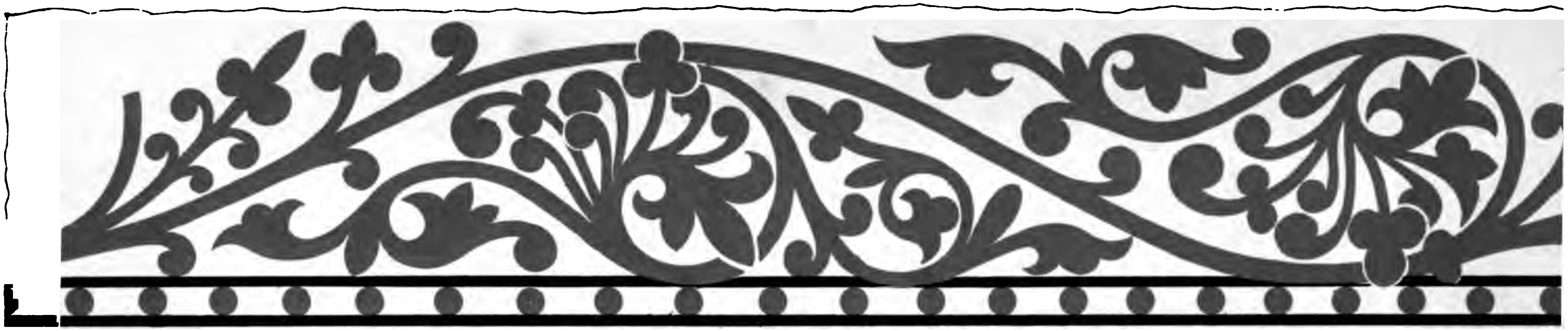
> "Would that I were an orange tree,
> "That busy plant!
> "Then should I ever laden be,
> "And never want,
> "Some fruit for him that dressed me."

If my conjectures are correct as to date, I shall be glad to have called the attention of the Institute to an effort at wall decoration for a church, made at a somewhat critical period in the history of architecture, when anything like art was seldom found in churches. Should any desire to pursue the subject further, and in greater detail, I may mention, that traces of what is believed to be similar work have been noticed in the domestic chapel at Haddon Hall, where some day or other it is to be hoped they may be closely examined by competent persons.

On the motion of Professor DONALDSON, the thanks of the meeting were unanimously accorded to Mr. Barber for his communication, after which the meeting adjourned.

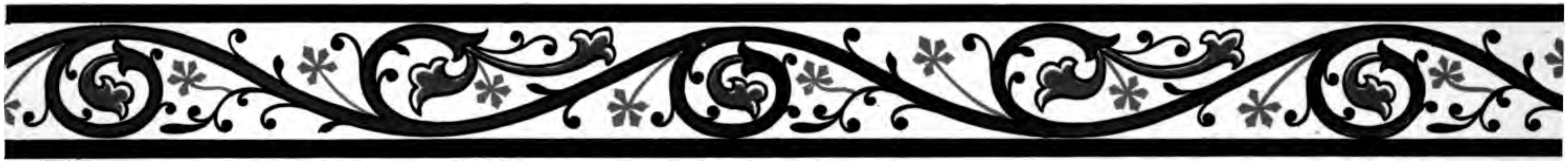
ANCIENT DECORATIONS DISCOVERED AT S^{T} NICHOLAS CHURCH, GREAT YARMOUTH

N° 1



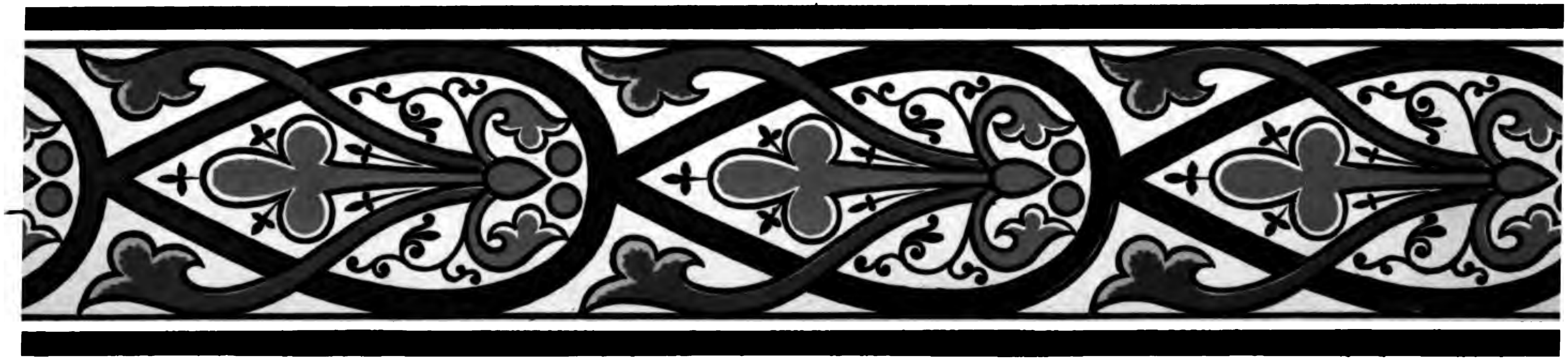
Scroll found beneath the Cornice of South Aisle to the Nave

N° 2



Scroll found beneath the string course under Window in west Wall of same Aisle.

N° 3



Ornament found at a lower level on the same Wall as N° 2

John P Seddon Arch^{t}

Lithog^{d} for The R I B A by Bell [illegible] London

Scale ½ full size

Royal Institute of British Architects.

At the Ordinary General Meeting, held on Monday, the 13th of June, 1870, E. I'ANSON, Vice-President, in the Chair, the following Paper was read:—

ON SOME RECENTLY DISCOVERED EXAMPLES OF ECCLESIASTICAL DECORATION.

By J. P. SEDDON, Hon. Sec.

Mr. JOHN P. SEDDON, Hon. Sec., proceeded to give a description of some recently discovered examples of ecclesiastical decorations at St. Nicholas Church, Great Yarmouth, and Llanbadern Church, near Aberystwith. He said:—The position in which those of Great Yarmouth were found, was on the south and west walls of the south aisle of the nave. No. 1, formed the border immediately under the stone cornice of the south wall. The walling beneath it was lined out in imitation of courses of masonry, with brown and red lines side by side. The scale of this decoration was fine and bold, and it is evidently, I think, thirteenth century work, the same date as the aisle itself. It is in distemper, and the colours vermilion with black lines, and characterized with remarkable freedom in its curvatures and fulness of detail, and the overlapping of some parts of the ornament is peculiar. The smaller one, No. 2, ran immediately below the string course under the large window in the west wall of the south aisle, but did not continue along the south wall, while it has some correspondence with the previous examples in the trefoil-shaped ends of the scrolls, it is different in character, being very delicate in detail, and particularly playful in its treatment. The other large one, No. 3, which is somewhat coarse in comparison with both the former examples, came at about two-thirds the height of this west wall below the window, and in a line with the string course under the windows of the south aisle. It is less elegant and much more formal than the others, and resembles some of the Byzantine decorations at St. Mark's, Venice, and elsewhere. The colours used in the two last named scrolls are more various, and consist of vermilion, black, brown and green, all earth colours, quiet in themselves and harmoniously combined. These are the only three decorations we could discover, excepting that the face of the walls shewed occasional indications of their being lined out with brown and red lines in the manner I have described.

The other example is from exactly the opposite side of England, or—to speak more accurately—Wales, for Llanbadern is in a suburb of Aberystwith. The scale of this nave is almost identical with that of the side aisles of St. Nicholas Church at Yarmouth. Those were 40 feet in the clear of the walls, and this is 40 feet outside them. This church must have been more richly decorated, but unfortunately it was difficult to retain anything worth keeping. We discovered at the west end of the north wall an immense painting in distemper of St. Christopher bearing a child, but we could not disengage it from another painting above or below it, which appeared to have represented St. Peter bearing the keys, with a cock crowing, and other animals and buildings in a sort of rude attempt at a landscape. I asked an artist, Mr. Cole, to make a careful drawing of the exact condition of these paintings, and this is before you. I pleaded hard that these interesting fragments of early decoration might be kept, but during my absence they were destroyed as being unsightly, though to my mind the present plain plaster is not more beautiful. The whole church was once decorated with figures on a large scale, and this figure of St. Christopher could not have been less than 18 or 20 feet high. Llanbadern Church is said to have been originally a cathedral, but is evidently of the type of a parish church, though on a noble scale, as is St. Nicholas, at Great Yarmouth. This imperfect record of the manner in which they were decorated, will therefore, I hope, be not devoid of interest to the meeting.

Professor **DONALDSON**, Hon. Sec. For. Corr.—St. Christopher seems to have been a favourite subject for decoration in churches, and it is a remarkable circumstance the enormous size of St. Christopher and the small size of Our Saviour. The whole is traditional, and the illustrations are carried out with remarkable capriciousness. In foreign churches too, we find this large figure of St. Christopher associated with other figures of much less size, and he is always represented in gigantic proportions compared with the other figures in the decorations. In most churches this figure is placed on the north wall, but I do not know whether there is any tradition which gives favour to that position over any other. With regard to Great Yarmouth Church, the decoration reminds one of the Greek decoration—the vases, the flowing lines, without rigidity or stiffness, but flowing, harmonious lines, all the parts running into each other with great grace and beauty; and it appears to me to be a very beautiful specimen of that class of coloured decoration. The other example is unique in its flowing tracery, and the colours are harmonious and would be very striking in the position in which they were placed. The third example is a more conventional form, being bounded with darker lines to define more particularly the shape of the different parts. There are three distinct classes of art to be found in these different specimens in Great Yarmouth Church, and I should like to know whether Mr. Seddon has been able to define the dates. The one down below seems to me more ancient than the other. [Mr. **SEDDON**.—I think not more ancient, I take them all to be thirteenth century work]. The middle one seems later. [Mr. **SEDDON**.—It is more delicate in its treatment, but portions of the ornament in it correspond with that of the others.]

Mr. E. **NASH**, Fellow, said that he was of opinion that all the specimens exhibited were of the same date, and as to their classic features, the thirteenth century was the classical period of mediæval art.

Mr. **PENROSE**, Fellow.—With regard to St. Christopher, he appears to have been pretty impartially dealt with as to the position in the church in which he is placed. I know that in the St. Clemente Church, at Rome, he is placed on the south wall, and in the church of Bradfield Combast, near Bury St. Edmunds, he is placed upon the north wall; and as far as I have observed, the position north or south appears to be pretty equally divided.*

Mr. **SEDDON**.—I have met with a very interesting example on the outside of a church on the banks of the Moselle, where it was on the left-hand side of the west door.

The thanks of the meeting were given to Mr. Seddon for his communication.

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* St. Christopher is uncouth and gigantic as usual, with the figure of the Saviour on his shoulder, according to the well known legend. He is always represented thus on the north wall of church walls, facing the south door, with allusion to baptism, He who sees him is lucky for a day or week—I forget which. The Saint is represented wading among fish, and grasping a club or staff. The hermit awaits him on the shore. . . . . . . The figure of St. Christopher was immediately over the north door, as Mr. Burgon states was the universal case; the colours were more clear when it was first uncovered, and it seemed, as he surmises, to have been painted over another picture. The legend of this Saint is well known, and the old verses beginning, I believe, with "Si Christopherum videris," and ending with a promise of good fortune to all who had seen him during the day, seem to have been a great encouragement to a regular attendance at daily prayer in church, as his figure was almost universally represented there.—'Paintings on the Wall of Bardwell Church.' By A. P. Dunlap. (*Suffolk Institute of Archæological Proceedings*, vol. ii.)

SUGGESTIONS ON THE ARCHITECTURAL VOLUNTARY EXAMINATION OF THE INSTITUTE.

By Professor KERR, Fellow.

Addressed to the Ordinary General Meeting, 13th June, 1870, E. I'ANSON, Vice-President, in the Chair.

I do not desire to open my discourse with an apology, but a few words of explanation are necessary to enable you to understand why I take the liberty of submitting my remarks to you on this subject at this time. In the first place, a vacancy was occasioned in the proceedings of this evening by the unexpected postponement of a paper which was appointed to be read, and it was necessary that some one should come forward to fill the gap. Then, for myself I have to say this. Having been appointed, with Mr. Penrose and Mr. Aitchison, to act as Examiner for the present year; and it being a rule that the Examiners and Moderators and others connected with the working of the scheme should, as a special committee, advise the Institute as to any improvements which may from time to time appear desirable; and this being the last meeting of the session; it seemed to me on the whole that it might not be inappropriate to lay before this meeting such suggestions as one member of the committee has to submit to the others, with a view to promote observations on the part of those who are present, as a contribution generally to the future discussion of the subject. In brief, the Committee formed by the Examiners and Moderators will sit in the recess; and the opinions which I submit to you to-night are those which I individually have to submit to my colleagues, and upon which I take the liberty of now inviting a preliminary discussion. But there is one other circumstance which I think I may mention without egotism. To show you how long I have been interested in this subject I hold in my hand a scheme of my own for architectural education, bearing date as long ago as March, 1852; so that I may venture to ask you to remember me as one of the earliest pioneers of this movement.

In whatever consideration we give to the improvement from year to year of this important undertaking, it seems to me desirable, or rather essential, to keep very strictly in view, and not allow to escape from our minds for a moment the purpose of the Examination.

This purpose I take to be twofold; firstly, academical; and, secondly, professional. The academical purpose, as you will remember, arose by reason of those reflections which have been cast upon the system of education in England by pupilage in architects' offices. It was pointed out most urgently that this system of pupilage, taken as a sole means of education, is manifestly defective; and we were called upon to observe the different system of education which prevailed on the other side of the channel, which produced, in the opinion of some authorities, much superior results. The Institute was urged to supply something of supplementary training in the form of academical instruction. This could only be effected by means of private reading and study; and accordingly a curriculum was carefully devised in this form, of which the Institute consented to take the responsibility, so as not only to encourage self education, but to give it a particular line of action and definite limits of academical necessity. This, then, is the educational purpose which has been in the mind of the Institute with reference to the establishment of the Examination.

The other purpose, I say, was professional; and it came about in this way. A considerable amount of controversy was set up in various quarters in favour of establishing for practising architects a diploma. This proposal was for years known as "the Diploma question." A large number of members of the profession were found to be of opinion that it was essential, in one form or another, for this profession of ours, like those of medicine and law, to possess its diploma, or license to practise. The subject was elaborately discussed by the Institute. It was pointed out that it was impossible for the profession to appeal to the government, with a view to procure any kind of prohibition against persons practising the profession without a license; and this I presume is now admitted. But it appeared at least equally plain that it was advisable for some definite professional if not legal act to be instituted, whereby he who possessed the proper training and accomplishments for practising as a useful architect should be acknowledged by authorative recognition, leaving those who had no such merits to make the best of it. This, then, was the professional purpose with which the Institute undertook this Examination.

It is on this twofold ground, therefore, generally speaking, that the project has stood for some seven years past; and the present Examination is the fourth that has been held, the dates being 1863, 1864, 1866, 1870. On each of the previous occasions we have had to consider, with due regard, of course, to the undesirability of disturbing the scheme further than would be absolutely necessary, whether we could take any further steps in the right direction; and on this occasion we have to do the same. Accordingly, I may at once point out for myself that my desire this evening is not to submit to you any radical change, or even any thing which may provoke controversial criticism, but simply to point out my own individual view as to what further steps in the right direction we may now consider ourselves able to take.

The impression on my own mind, as to the character of the results of these Examinations, derived from a considerable amount of attention to them, is what I have first to state to you. I would point out that the examination itself is a thing of three parts, or in other words that we have three Examinations. The first is probationary or preliminary. The second is an ordinary pass examination of a final character, for which a certificate of proficiency is to be granted. The third examination is one for distinction, and is a repetition of the second as nearly as possible, differing from it chiefly as matter of degree, not going into any further field, but taking a higher position on the same ground. Thus it appears that the standard examination of the scheme is the one of "Proficiency." On passing that examination the candidate receives his certificate; and it is this certificate or diploma (I see no reason for hesitating to call it a diploma) that constitutes the professional recognition from which so much is expected ultimately to result in the practical advancement of the profession.

Now, the scheme of the Proficiency Examination in few words is this. The candidate first submits some design and drawings of his own. He then subjects himself to an examination extending over a fortnight, and occupying four days in each week, with hard work for each day. The subjects are these: He prepares a design for a building, the subject of which is dictated by the Examiners; for this two days are allowed. Then he is engaged upon Mathematics for three hours; Geometrical Drawing and Mensuration for three hours; Professional Practice for four hours; Theoretical Physics for four hours; Materials, always a very difficult subject, and one which must cause a good deal of hard labour, for six hours; and Construction, again a difficult and advanced subject for a young man, for six hours. Lastly, in another four hours, he is expected to write two essays under the head of History and Literature, one being upon general history, with reference incidentally to the subject of architecture; and the other upon some purely architectural subject, which the candidate is entitled within limits to choose for himself. This work goes over the whole fortnight, as I have said, with two days in each week missed.

The first thing which struck me on considering this matter was the fatiguing character of the examination. Let me here remark once for all, that such illustrations as I am able to offer, from the actual working of this year's Examination, must obviously be of a very general character. Accordingly, as an instance of the fatigue involved, I can only say that you have heard to-night that one candidate, much to the regret of the Examiners and Moderators, broke down altogether towards the end of the Examination. Let me observe that the whole of his labour was consequently lost. I may further say, I have understood that other candidates on former occasions have broken down, or very nearly so. I have understood also that one gentleman, who was very anxious to pass, said the labour of the Examination was so great that if he failed he could not undertake it another time. Therefore you will not be surprised if I say the fatigue of this examination made a strong impression on my mind; and accordingly, I think, if by any means this fatigue could be diminished, without lowering the standard of the Examination, it would be a good thing.

The next point which occurs to me is the circumstance that, owing to the peculiarity of the scheme, —which is a pass-examination for the entire curriculum, each subject having a certain minimum number of marks, and there being similarly a minimum for the aggregate,—if a man does the utmost credit to himself in all but one subject, and loses in that one by scarcely reaching the required minimum of marks, he loses the whole of his labour. He is simply rejected. This, however, is the condition which has been accepted; I will not say whether it is wise or not; but my own impression is the sooner it can be somewhat modified the better.

The next matter I refer to is the circumstance of the examination for Distinction being altogether separate from the examination for Proficiency. The Distinction examination, though it points to other fields of superior accomplishments as permissible, yet substantially takes the same ground as the Proficiency examination. But in order to obtain "distinction," the candidate who we may suppose comes forward for "proficiency" at twenty-one years of age, has to wait till he is twenty-five, and then has to go over the same ground as in the first programme. It seems to me there is considerable difficulty here, and that this is a subject upon which investigation might fairly be made.

[The following clause was referred to in the published programme: "The Institute, therefore, did not encourage any person to offer himself as a candidate in the Class of Distinction under twenty-five years of age."] *

My argument is that practically he has to go over the ground twice; and the consequence, as I think, appears in the fact that up to this time we have only three graduates who have passed in the class of Distinction. On the present occasion we had no Distinction candidate at all.

The next point I would mention (and I hope I may not be supposed to be attempting to pick holes in the scheme, my purpose being only to advance it), is the circumstance that there is at present a total want of connection, as regards the ultimate results of these Examinations, with the Institute; and I may also say, a total want of practical connection with any ultimate advantage in the profession. A man submits himself for examination, and what does he get? He gets a certain certificate, but he obtains no further recognition here. We look upon ourselves as the guild of architecture; and it is some sort of association with this guild which I think would be the most valuable reward. In the second place, even if the diploma were more complimentary than it is likely to be, I question whether the possessor of it would find he has derived advantage from it amongst the profession at large, to say nothing of either the world of business or society. I hope I may not give offence if I mention this further notion, viz., that I think the recognition which this Institute has given to passed candidates has been of a reluctant and grudging character. There seems to me to have been a want of disposition to encourage and stimulate candidates. At any rate, I know this is the view taken by many, and I

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* Under the Rules of the Examination, however, a candidate who passes in the Class of Proficiency at any age may present himself the following year as a candidate in the Class of Distinction. The restriction as to age only applies to those candidates who desire to pass in the higher grade without having previously passed in the first.

think we may be able on reconsideration to see our way to give a less reluctant, and, indeed, a liberal and generous recognition of the merits of those who have acquired credit in these examinations.

Another point which has occurred to me is the difficulty in which provincial candidates are placed. A young man coming from Liverpool or Manchester, or from Scotland or Ireland, has to establish himself in London for at least a fortnight's residence. This we may call something like three weeks' absence from home, at a loss of his earnings and a considerable cost besides, when such expense is almost always an object. Not only so, but he finds himself removed from his customary associations, and even surrounded by novel distractions, while called upon to struggle through a long and laborious examination, of which he is almost sure to have underestimated the severity. Upon this I think I may safely venture to say that if some amelioration of the pressure could be judiciously devised, it would be a great boon.

Another thing which has occurred to me is, that there is a certain complexity about the scheme. I believe this is the general impression of those who came forward as candidates,—that though theoretically and nominally the scheme itself is clear and precise enough, yet when reduced to practice, it is found on various points to fail in this respect and to fall into perplexity and difficulty. More particularly there is an element which I for one must take leave to object to,—that is, there is a severe and somewhat paradoxical element of secresy imported into the working, in a way which surely is quite unnecessary. The result, in my own experience has been, to say the least, needless confusion. The object, of course, looking to the present occasion, could only be to satisfy the young men that Mr. Penrose, Mr. Aitchison, and myself, should not be able to cheat them. But I have no hesitation in saying, the young men had no thought for a moment that we could possibly be so disposed. I dare say they would have had the most perfect confidence in coming before us openly for *viva voce* examination throughout. If therefore such secresy be unnecessary, I think we may say it cannot fail to be a grievous embarrassment. [Professor DONALDSON, begged an explanation of this secresy]. It is so inexplicable that I do not think I could explain it. Indeed, I do not profess to understand it. In the first instance, as I gather, certain symbols are attached to the papers in order to identify them with the individual candidates; then somebody rubs these out and puts in another set of symbols; then somebody else pastes these over and puts on another set; and so it goes on till everything is in its turn obliterated and there seems to be nothing that does not signify something else. Of course all this is done for the most virtuous end, if it were necessary, namely, to prevent the young men from being unfairly treated. At any rate if it be not necessary, then I submit the sooner it is reconsidered the better: if it be still deemed necessary, then keep it up.

No one will be surprised to be told that in any scheme of examination in which these little shortcomings are found to exist, the result will appear in the number of the candidates being small; because every hardship, every embarrassment, every complication, keeps candidates away. You cannot have the scheme too plain, straightforward, and above-board, or too simple in its elements, provided the standard be sufficiently high. But again, no one will be surprized to hear, as the consequence of what I have been describing, that on the contrary the standard has become low. Far be it from me to say that those gentlemen who have passed the present examination do not deserve your warmest approbation and applause; yet I think these young men would tell you themselves, if they could be asked, that if in the course of a little time a step or two in the right direction could be further taken, the result would tend to raise the standard of the whole examination, simply by avoiding those little shortcomings which at present make themselves felt in the working.

The last point I will mention is, that there is an observable absence, in this, as I think, particularly important portion of the Institute's practical operations, of that continuous management, which, under the general control of the Council, exists with reference to other important subjects, by means of special committees. In the present instance, for example, the Examiners and Moderators are for the moment in charge; but in a very short time they pass out of office, and no one has charge of the matter in any way (except in so far as the general charge of the Council goes) until the next Examination occurs.

This being the last item I have to offer in what I hope you will not call fault-finding, I will now point out to you, merely as suggestions for your general consideration, and not as definite proposals of my own, what I will call certain further steps in the right direction, which may perhaps at the present moment, or shortly, be taken, with a view to the improvement of the scheme which so many of us have at heart.

The first suggestion I will make bears upon the last of the short-comings I have alluded to, viz., the want of a permanent supervision of this part of the Institute's operations. All I have to say on this is, that I am inclined to think it would be a good step to have a special committee in permanent charge of the Examinations, just as we have committees in charge of our other undertakings. We have a committee in charge of questions of Professional Practice; another for the Library; another for Sessional Papers; another for the Conservation of Ancient Monuments; another for the District Surveyorship Examinations; and I think it would simply be an equally good thing to have a similar committtee of a permanent character, placed as soon as possible in charge of the examinations now before us, consisting of gentlemen who have acquired experience as Examiners and Moderators, and others equally qualified incidentally to take charge of the subject.

The next move in the right direction which I will suggest is this. I have spoken of the great fatigue involved in the Examination itself; and I might go on to speak of the great additional, or rather preliminary fatigue which is involved in the preparation for it. There are no less than seven or eight, or properly speaking a dozen or more, separate subjects which have to be read up; namely, besides general design, mathematics, geometry and mensuration, physical science, what is called professional practice, materials, construction and specification, and history and literature. And observe the student has to toe the mark on all these subjects virtually at one moment. He cannot stand an examination on one subject to-day, and read up for another to-morrow; all his preparation must be completed before the examination begins (this is a maxim accepted everywhere); consequently he must be primed and loaded on all these subjects together,—most of them not at all connected with his every-day office work, and others only connected with his school days. Now, looking at the scheme of examination, it is, I think, easily capable of being divided into three classes of subjects. The precise number is a matter of detail on which I do not ask the opinion of the meeting, but one on which the committee will be better able to advise: but what occurs to me is, that one division might be practical art and design, a second general science in the abstract, and a third professional practice in a comprehensive sense. These three, I think, are easily separable fields, and it seems to me it could not possibly do harm, and might do good, if a pass were granted for each of the three separately. The foremost consequence would be, that a man who failed in one would not lose in the others. An additional advantage of this division into parts would be, that we should be able to establish at once a higher standard of examination. A candidate might then pass in one, or in two, of the three subjects in one year, and come up another year and pass in the remainder. By that means, as it seems to me, this double advantage would be gained, —the fatigue of the examination would be lessened, and the standard of examination might at once be advanced. Then again, if it were thought desirable to adopt such a scheme as a means of relief, you would probably be willing to give the certificate or diploma only for passing in all; so as to carry with it this important character—that the person to whom it is given is pronounced efficient for the actual practice of architecture. This is exactly what rising young men want; they want something which shall say to the world, " This man has been pronounced by authority of his seniors to be qualified to practice architecture in public as his profession."

Then with regard to the subject of honours, I am personally inclined to think that the necessity for a separate examination for " Distinction" does not exist. I think all we desire can be most easily accomplished by the simple means of granting honours to the men who pass more than creditably. For instance, I would not allow any man to pass by half the number of marks, or less, as at present; but when a man has gained perhaps considerably over three-quarters of the number of marks in any class of subjects, I would then give him a certificate for honours for that class, without any further effort or trouble on his part. This, I think, would answer our purpose equally well, and would also ensure the educational purposes of the candidates. Of course, it would still be easy enough to provide for the case of a candidate who, desiring to gain honours, failed at the first endeavour, and therefore offered to come up again. As regards the two points which I have now discussed, I feel that if anything like this scheme could be carried out, it would reduce the fatigue of the mere examination itself by more than half; and I think this would be a great boon to young men who have for the most part to prepare themselves for examination by study after the hours of employment in the office.

Now, I have a crochet of my own with regard to provincial men. I do not see why we could not examine provincial men in the provinces. I need scarcely tell you that some of the young men in the present examination came from a distance:—at any rate there are two from Northampton; and when you look at the list of former successful candidates, you find one from Manchester, one from Gateshead, one from Bristol, one from Sheffield, and one from Belfast. I am myself inclined to think a very large proportion, if not the majority of candidates would be from the country if we relieved them from the necessity of coming up to London to be examined. The list of questions might perhaps be sent down to some local member of the Institute, or other such person, under an arrangement whereby he pledged himself to see carried out certain conditions devised at head quarters; and I for one see no reason why this could not be done easily enough.

I come now to the question of rewards, and on that I will take the risk of repeating that the system of our rewards exhibits a certain reluctance which amounts to discouragement. I think also the sooner we adopt the system of introducing a practical connection of the examinations with the Institute the better. As regards the diploma, the fear has been expressed that such a recognition would enable a man to assume an attitude of self-gratulation which would be inconvenient to others. But why so? I would allow him to blow his own trumpet as much as he pleases; perhaps the more he does so, the better for the cause. As regards the connection with the Institute, I venture to suggest this: that candidates who pass the preliminary examination should be admitted as free students of the Institute, without payment of any fees. That would cost us nothing, and at the same time would be a boon to the young men. I would further suggest that the man who gets a diploma, for success in all sections of the Examination, should have the Associateship of this Institute, as a matter of right, upon the easiest possible terms we can contrive. This would be not merely an encouragement to the young men, but a benefit to the Institute, for we should be honoured by possessing Associates who might be said to have come up for examination for the purpose of obtaining that position.

Then, lastly, I would refer to an old suggestion, that the man who receives honours ought to have a medal in rocognition of the Institute's appreciation of the honourable position he has attained; and I think he might perhaps further be entitled as a matter of right to the Fellowship of this Institute—I presume after he has fulfilled his seven years of probationary practice—on easy terms.

Let us remember that the pecuniary concessions I have suggested are such as to cost us little in money, while they may prove to be of infinite value to the cause of professional education. At the same time, we may also reflect that they are of much more moment to candidates than some of us may profess to think. We must look back to our own young days, when, as the phrase goes, money was an object, and we shall see more clearly, perhaps, how far this condition of early life may be turned to advantage.

I do not say that all these steps can be taken at once, but I think they all point in the right direction. The chief object of the Examination perhaps is to elevate the standard of education as much as we can. I have been reminded by a friend that the standard had been purposely lowered for the first few years; I say, therefore, the sooner we now raise it to what originally was intended the better. Whilst I would raise the standard, I would at the same time as far as possible diminish the labour. These two points are my general issues. There is nothing radical or revolutionary in what I have suggested, nor anything to occasion alarm; and I have in conclusion only to remind you that I have ventured to lay this subject before you this evening, not with a view to your taking the responsibility of acting upon any of my proposals, but only in the hope that an expression of your opinion may be elicited, which, without committing you to anything, must be of great value to the Committee of Examiners and Moderators, who will meet in a week or two to prepare their usual report to the Council on the general subject of the Examination.

Mr. WIGGINTON, Fellow.—I am sorry to hear Professor Kerr speak so despondingly of our being able to obtain a diploma sanctioned by Government, for I know he worked very hard in this matter some years since. I was, in conjunction with him, a member of the first committee appointed to draw up the curriculum, and I regret to find that he has changed his views. I hope before long we shall be able to go to the Government and ask for a diploma; inasmuch as the evil of putting names on brass plates under the style of "Architect" is increasing rather than decreasing, more especially in the provinces.

Mr. JOHN P. SEDDON, Hon. Sec.—I think some of the suggestions of Professor Kerr, especially as to the diminishing of the labour of the examination and spreading it over two years instead of carrying it all out in one, are worthy of consideration. I confess I do not share in the sanguine hopes which the last speaker has expressed on the subject of a diploma under Government sanction, and the feeling of the Institute hitherto has always been against asking for such a thing: at the same time, if it would have the tendency to enhance the value of the certificates we ought to strive for it; but all possible precaution should be taken to prevent certificates being obtained by the system of "cramming." It would be a better test of ability in the various branches of the Examination if the candidates were prepared upon two or three subjects in one year rather than being examined on so many subjects at once.

Mr. PENROSE, Fellow.—I think there is not one of Professor Kerr's suggestions which does not merit consideration, but I feel with respect to most of them justice cannot be done to them after a few minutes' reflection, but that they require to be weighed maturely. There is one point, however, on which I think the feeling of the meeting might be brought to bear, and it would be of great service to the committee of Examiners and Moderators who have to meet again on this subject; and that is with respect to what has been termed the grudging quality of the rewards of these examinations.

Mr. T. ROGER SMITH, Fellow.—Having taken an interest and a humble part in these examinations for some years, I will say a few words on the whole question. At the outset I would say I think we must all feel grateful to Professor Kerr for the way in which he has brought the subject forward, and for the liberal spirit in which he has treated it. The learned Professor has given more credit to the Institute than, I am afraid, it deserves; for he speaks of the certificates which these young gentlemen are to have; whereas I believe they have not got them, but a resolution has been come to that certificates shall be issued; but that is only a promise. [Professor DONALDSON: They are prepared, and will be issued immediately.] I quite concur with the learned Professor (Kerr) that the reason why we have so few candidates for examination is the absence of that practical connection with the Institute which is in my opinion so desirable. It also appears to me most desirable that there should be the permanent committee which Professor Kerr has suggested, and I should be inclined to move that the Council be requested to nominate such committee to take charge of the subject of Voluntary Examinations. I consider this is a matter of equal importance with those which have at present the benefit of permanent committees, because it is one which eminently requires the attention which such a committee only could bestow upon it. Having said thus much in concurrence with the views of Professor Kerr, I hope I may be excused for saying there are some points of his suggestions on which I do not exactly agree with him. It appears to me undesirable for us readily to alter the character of the examination by dividing it into sections which a man may pass *seriatim*—for this reason. The main object of the Examination is to show that a young man has reached a standard which makes him fairly proficient in the subjects he has studied, and I do not think it much matters which way you look at it—whether he is so proficient as to make him fit for practice, or as a successful student. Taking the broad divisions of the Examination they are these—designs, mathematics, and geometrical drawing, professional practice, physics, materials, construction, and the history and literature of the art. I do not think there is one of those things which a man ought not to have tolerably at his fingers' ends when he commences practice; and when he steps out of student life he should afford indications that he has reached a fair standard in every one of those branches. I think the result of allowing candidates to devote themselves to two or three subjects in an examination and postpone the others till another year would be to lead to more "cramming," and would not be so satisfactory as if they showed themselves to be fairly proficient at one time in the different topics they have to go through. As to the so-called secresy alluded to by Professor Kerr, I do not see much in that, as I think under the present system the separate work of each candidate is better judged of, and each man's work classified according to its merits. In conclusion, I think it is a pity that we have no detailed report from the Examiners and Moderators on this occasion. [Professor KERR: We have not finished yet; we have to meet again to prepare our report.] In the absence of the report it is satisfactory to find that one of the Examiners has taken the trouble to go into the matter in this way. I trust the suggestions which have been thrown out this evening will be well weighed, especially with regard to such a recognition of the examinations on the part of the Institute as will reward the candidates for their efforts. I hope these views will be embraced, and that they will yield good fruit in the future.

Mr. PHENÉ SPIERS, Associate.—We ought to feel grateful to Professor KERR for bringing this subject forward. Generally it has been brought before committees only, and outsiders have no power of knowing what is done, or the reasons which are advanced for adopting propositions which are thought to be beneficial to others not on the committees. The various points which Professor Kerr has brought forward with reference to these examinations were, I believe, brought forward in a different form—though not so boldly—after the examinations held in 1863-64. I was unfortunately away from England then, and since that time certain amendments have been made, some of which one can hardly see the reason for. As to the reduction of the time of examination, it is said that the time at present devoted to the purpose is an inconvenience. However that may be, it is quite certain that no one in three days could go through such a course of examination as that which now obtains. It was felt that the time should be much longer than three days; it was also felt that the number of questions to be answered was too great to enable them to be answered with credit. It was then resolved that the time of examination should be lengthened from three days to a fortnight, as it stands at present. This great addition to the amount of time expended in the examination changes somewhat however its principle. It is well known that the system, or rather want of system, of English architectural education obliges a young man after office hours to acquire certain information, and to an extent the examination goes to test the student, not in office work, but in work which he has had to do out of the office. It is scarcely possible to expect that clerks and pupils in offices can give more than a week to examination on subjects which they study only of an evening, and I believe if the time of examination were shortened to that period it would bring a larger number of candidates. With regard to the alleged reluctant recognition which the Institute has given to these examinations, as one who presented himself at the first examination, I would say I believe the recognition has been poor and stingy in the extreme,—not that it much matters, or that the examination is held to be of any great importance out of doors; but I think the Institute ought to have been prepared to give greater publicity to the names of the successful candidates; and let it be known that a certain number have thought the Examination set forth by the Institute was worthy of spending a large quantity of time upon. I may say the only occasion on which the examination was of value to me personally it was entirely lost. There was published some time since a Directory of the Architects of England and of the trades connected with architecture. At the beginning of that book there was a list of names of some of those who had passed the examination of the Institute; I think care should have been taken to see that *all* those persons who took the trouble to pass the examination were given in the list, whereas to my own knowledge two persons who passed for distinction were left out. This I repeat was the only instance in which value could be attached to the examination as regards myself personally, and as I have said, that was lost to me.

Mr. EASTLAKE.—I believe I am correct in stating that no application was made to the Institute, by the compiler of the Directory referred to, for a list of candidates who had passed the examinations. A list of members was asked for and supplied.

Mr. SPIERS.—Then with regard to the "secresy," if what Mr. Roger Smith states is correct, I should advise the students of the Association to falsify their handwriting each time they go into the examination.

Professor DONALDSON (interposing).—I really must say the spirit in which this discussion should be conducted ought to be at least with due respect to the feelings of the Institute and of the gentlemen who render it a very valuable service by giving up a great deal of time to these examinations without any remuneration. I really can only regard these as captious objections to the way in which those gentlemen have discharged their duties.

Mr. SPIERS.—I wish to speak with all respect, and I have always advocated the examinations in the Association downstairs, and have always said the Institute is worthy of all praise, but on an occasion like this it is right to mention those points on which I have heard a great deal of grumbling amongst students. I am connected with the students a great deal, and I know their feelings, and I bring these matters forward to assist the students rather than as complaining personally of what has been done.

Professor DONALDSON.—There can be no objection to your bringing forward any suggestions; I only speak of the spirit in which the observations appear to be dictated. It is quite open to any one to advocate the cause of the students without wounding the feelings of others.

Mr. SPIERS.—I think there would be great advantage in dividing the subjects of examination as Professor Kerr suggests, inasmuch as it would enable the standard to be raised. Mr. Roger Smith says young men should be ready upon these matters without much preparatory study. That I think is a theoretical view. Mr. Smith objects to the division of subjects on the ground that it would encourage cramming. I think that could be avoided by a proper subdivision of the subjects. Professor Kerr did not say under what heads he classed the subjects. Supposing they were divided into three classes—viz., 1st, design; no cramming is necessary for designing. 2nd, physics and mathematics; every one must cram more or less for these subjects. There must always be cramming when Euclid and algebra and formulæ are brought before you. 3rd, Materials and Construction, and to these latter the same remark applies as to design. You may cram for Materials as you are obliged to do now. I think one of the most valuable suggestions of Professor Kerr is that which relates to the more intimate connection of the Institute with these examinations; and if the Institute is to take the stand it ought, it will more intimately attach itself to these examinations than it has hitherto done. There was a proposition made last year with reference to that, and it was suggested that no student should be admitted a member of the Institute who had not passed examination. That was felt by the students to be a right thing; but it was thrown out by the Committee without a word of explanation. That is the point to which we are tending now, and I am sure it is the wish of the students downstairs that the examinations should form an intimate portion of the operations of the Institute.

Mr. E. **Nash**, Fellow.—I beg to rise to second the proposition of Mr. Roger Smith for the appointment of a permanent committee to take charge of the examinations. [Professor **Donaldson**.—It cannot be done here. It can go from the meeting as a recommendation to the Council.] I shall be happy to second the proposition in that form—that it be a recommendation to the Council to nominate a special committee to take charge of the examinations. I am myself grateful to Professor Kerr or anybody else who will do anything towards the improvement of the examinations. It is a subject I have always taken great interest in, even before I joined this Institute at all. I kept aloof from it for some time because I thought it was better that a man should come into it through some merit of his own, rather than he should join it simply because he is an architect; and I abstained from joining it for many years because there was no test. I think one of the reasons why these examinations have not succeeded in getting into such favour as might have been expected is that many have thought it an almost useless proceeding. It is pretty well known that I have never held that view myself, and I am glad to see that the number of those who are of my way of thinking on this point, is increasing. At the same time I may say that no examination can be a test of a man being a man of mettle, and there is no test which can be applied to finding out that. Examination will never test whether a man is fully competent to practise in the profession of architecture in its highest and fullest degree. Nevertheless it must be a benefit to the Institute and the profession that some test should be given to show that a man possesses the qualifications of an intellectual man and the skill of an artist; and I am sure we must not only be grateful to the Institute for having established the examination, but particularly grateful to those young men who come up to go through that severe ordeal. The condition of things alluded to in Dickens's works with regard to Architects is, I am happy to say, going out in part, and if these examinations are so successful as to make it known to the public that those who belong to the Institute are men of education and talent, it would be a benefit to the whole body. Talent has multiplied at least twentyfold beyond what it was, and there are plenty of men who will take advantage of these examinations for bringing it out; whereas in my young days I had to get up the little knowledge I possess by my own hard labour, without any assistance of this kind. The committee which I support the appointment of is the only method by which the details of the examination scheme can be properly considered, and it is with great pleasure that I second the recommendation that such a committee be appointed for that purpose.

Mr. C. **Fowler**, Fellow.—Having taken an interest from the first in this matter, I cannot refrain from making a few remarks. And first as to the committee that has been suggested. I was under the impression that such a committee already existed, although they may have had little to do, seeing that the examinations have not regularly taken place. [Mr. EASTLAKE.—There has been no permanent committee.] I think this is the first examination that has been held for several years, and to a certain extent the matter comes fresh before the Council and the Institute. I agree with Professor Kerr on the proposition for this committee, and I join with those who have preceded me in thanking him for bringing this subject before the meeting to-night, though with some of his points I do not agree. As to the fatiguing character of the examination, on which Professor Kerr has laid so much stress, I cannot help thinking Mr. Spiers rather represents the feelings of the candidates, coming up as he did on the first examination, and I agree with him that a short period of examination, endeavouring to compress an enormous amount of work into a very small space of time, must be a greater strain on the mind than when more time is afforded for going over the same ground. Not having been immediately connected with the examinations, I was not aware that they occupied so much time as is stated; but five or six days appears to me the least that could be occupied, and perhaps six or seven would be better. [Mr. SEDDON.—It amounts to six days at present, viz. four whole days and four half days.] I think that is not too long for the work to be done; and that it would be a greater strain upon the candidates to compress the same amount of work into four days. As to the granting of certificates, you will remember from the first the difficulty there has been to bring this matter to bear at all, and it was upon this ground—this Institute, though having a Royal charter, is not recognized as any standard body of the profession with regard to the public. It certainly represents the profession in a certain way, but it has no means of control over the profession at large whatever. It is simply a private society for mutual instruction and information, and as such it is extremely difficult to deal with this subject; consequently, the senior members of this Society felt some difficulty in dealing with it. I can understand they might think, by giving diplomas, as it was proposed to call them, to the young men who passed, it might be placing them on a par with men of greater experience than themselves, and the public would have some difficulty in distinguishing between the two. I mention that to show why the Institute may have appeared to be niggard in the recognition of these examinations. I do not for a moment justify it. I think the object of the examinations should be to grant diplomas or certificates of competency to practice as an architect, and if they could be made of any legal value so such the better; but I apprehend so long as they are granted by the senior branch of the profession they will have a certain value, though no legal value. As to dividing the subjects it does not appear to me desirable, and my opinion upon that is formed rather by analogy of examinations in other cases, than from any views of my own. One objection is, that a young man who comes up for one examination with the intention of passing the other afterwards, might be prevented from doing so, and his labour to a certain extent would be thrown away. [Professor KERR.—There are two or three examinations in the medical profession.] There is but one pass examination, though there may be several examinations. The examinations, if separate, lead up to one end. I confess Professor Kerr's statement as to the difference between "proficiency" and "distinction" is new to me, and if he is correct in that I have been under a misapprehension. I thought "distinction" in examination was merely the carrying further the examination for "proficiency." It is quite true it is laid down that no student shall present himself for examination for "distinction" before a certain age. That no doubt is a wise regulation to prevent a student coming up unprepared. It is thought that before the age stated he will not have been able to study sufficiently to pass in "distinction;" but it is not necessary, I believe, that he should previously have passed in "proficiency." If he chooses to wait till the time laid down he may come up for examination simply in "distinction." With respect to the point of a more intimate connection of the Institute with the examinations, that is perhaps the most difficult to deal with. The ultimate view is no doubt the correct one; but even the intermediate step just taken I doubt. I do not hold with the view that there should be rewards for these examinations. The reward should be the certificate, and the real work which a man must go through in order to pass the examination. That will be its own reward. It is so in the Universities. There is no substantial reward to a person taking a degree. [Professor KERR.—Fellowships.] The certificate of this Institute, showing a man's proficiency in his profession, is a more substantial thing in my mind than anything that is got at the Universities. With regard to provincial examinations for the convenience of country students—looking at the experience of such examinations elsewhere I do not think it is desirable to urge that point. As to the standard of examination, I am surprised to hear the Professor state he is dissatisfied with it. It was intended to be raised by degrees in order not to frighten young men at first, and I thought it had by this time reached the normal standard. As to recognition by medals I do not think any substantial recognition of that kind should be made.

Professor DONALDSON.—With respect to the suggestion of premiums to the successful candidates, and that the fact of passing the examination should entitle them after a certain period to the Fellowship of the Institute, we may look forward to the period when all architects will submit to these examinations, and when you have all free members where are the subscriptions to come from for carrying on the business of the Institute.

The CHAIRMAN.—As I understand, the motion before the meeting is, that it be a recommendation to the Council to nominate a permanent committee on the subject of the Examinations. If other gentlemen wish to continue the discussion further, looking at the lateness of the hour, I would suggest the propriety of an adjournment.

Mr. CHARLES BARRY.—I would beg to ask the mover and seconder of the proposition what are to be the powers and functions of this committee, whether they are to be at liberty to conduct the examinations with such modifications as occur to them from time to time, and also whether those functions are to embrace the subjects which have been brought foward to-night, or whether it is to be merely a committee for conducting the examinations under the existing regulations?

Professor KERR.—There is a committee at present in operation, constituted by the Examiners and Moderators, whose duty it is to make a report upon any questions of this kind. What I suggest is, that apart from that, there should be a permanent Examination Committee to control the Examination under the instructions of the Council.

Mr. BARRY.—Is it the notion that the committee now suggested is to be asked to make an exhaustive report upon the matters ventilated this evening?

Mr. SEDDON.—For my own part I can hardly see what are to be the functions of such a committee. The Council is as it were a committee to watch over the questions which arise. If you have a committee to consider broadly these suggestions, and report to the Council upon them, there might be some use in it; but to appoint a permanent committee while the Council holds its present functions seems to me to be useless.

Mr. J. A. HISCOCKS.—We have heard of late the discussions that have taken place in the House of Commons upon the position of architects, and we are much indebted to our late President Sir W. Tite for the manner in which he stood forward in our behalf, and vindicated the position of the Institute of British Architects. Some hon. members chose to style us as a mere trade union. If so, what is the use of all your scientific discussions while the outside public only look upon you as a number of gentlemen banded together for professional purposes. We want some means whereby the position of the Institute may be elevated in the public estimation. We have no legal license to grant diplomas; it would be something if we could obtain that. A chimney sweeper may call himself an architect if he pleases to do so, and a carpenter may take up the dividers and say " I am an architect." We want to get rid of the sarcasms that have been passed upon the Institute—that you are a mere trade union. Let something be done to alter that impression. Let your examinations be as severe as you please, we shall always have young men ready to come up to them, and who will pass examinations with which old Vitruvius himself would be satisfied.

Professor KERR.—I would remind the meeting that the committee of Examiners and Moderators is still acting, and I apprehend it will be their duty to consider the suggestions that I have ventured to make before you to-night in preference to reserving them for the Committee only. If this Committee see fit to recommend the appointment of a permanent committee, probably that will satisfy the mover and seconder of the proposition before the meeting.

Mr. T. ROGER SMITH.—My strong conviction is that the Council is not the proper body to watch over from year to year a subject so full of details. I gather from Mr. Seddon's remarks that the Council do not intend to support this proposition. I have no wish to divide the meeting upon it.

Professor DONALDSON.—I see no reason why the Council should not support it. It seems to me desirable that this matter should be referred by the Council to the Committee of Examiners and Moderators to consider and report whether any improvements can be made in the scheme of examination, and also with reference to reward for " distinction."

Mr. T. ROGER SMITH.—That will be satisfactory to me.

Mr. FOWLER.—I hope the original motion will not be altogether withdrawn. I think there should be a body to supervise and take charge of the whole subject of the Architectural Examinations. It is quite clear the Council, with its multifarious duties, cannot undertake the task.

Professor DONALDSON.—They do not. It is referred to the Examiners and Moderators to conduct the whole thing; they are completely uncontrolled by the Council in any way whatever.

Mr. T. ROGER SMITH having withdrawn his motion, it was ultimately agreed that the Committee of Examiners and Moderators should be requested by the Council to consider whether any and what improvements could be introduced into the scheme of examination, and also on the subject of reward to those candidates who pass in the class of " distinction."

On the motion of Mr. SPIERS, a vote of thanks was passed to Professor Kerr for having brought this subject forward.

The CHAIRMAN.—I would just say that Professor Kerr is fortunately one of the Examiners, and therefore is in the best possible position to take his share in the matter. In reply to what fell from Mr. Spiers, I would say that the Directory to which he alluded was published by Messrs. Wyman as a speculation of their own, and the Institute had nothing to do with it in any way whatever. I may add moreover, that its issue has since been stopped by an injunction obtained by Mr. Kelly, the proprietor of the Post Office Directory, and the scheme has fallen to the ground.

Mr. SPIERS.—I merely referred to the circumstance for the purpose of showing that the only occasion on which the examinations could be of value had been lost to us. I hope in future some other means will be taken to give publicity to the names of those who passed the examinations.

Mr. SEDDON.—They are published at the time in the professional and other newspapers.

The CHAIRMAN announced the termination of the Session, and the meeting adjourned.

N.B.—The subject of the Voluntary Architectural Examination has since been referred by the Council to the Committee of Examiners and Moderators, who have prepared a Report thereon, which will be considered by the Council after the Recess.